

19 June 2026



Dear Expert Panel

Taharoa Ironsands Fast Track Application: Response to comments

Introduction

This letter has been prepared in response to comments raised in the Section 51(2)(c) wildlife approval report by the Department of Conservation (DOC) for FTAA-2512-1153 Central and Southern Blocks Mining Project. The Section 51(2)(c) wildlife approval report includes comments from Treaty Partners (Ngaati Mahuta ki te Hauaauru and Te Nehenehenui), which were also separately provided directly from the parties to the Panel. Those comments are addressed here also.

This response relates only to native lizard management matters, and the purpose of this letter is to provide further details and describe proposed updates to the conditions (set out in **Appendix A**) and draft Lizard Management Plan (LMP) (included as **Appendix B**) in response to comments.

Department of Conservation

Section 6.5.4

DOC comment: DOC considers that there is a high degree of uncertainty regarding what species of skink are likely to be present on site.

DOC's asserts that there may be other species present on the site, based on three additional species being identified within 30km of the site in DOC's Herpetofauna (BioWeb) Database. These species are the forest gecko (*Mokopirirakau granulatus*), Pacific gecko (*Dactylocnemis pacificus*) and elegant gecko (*Naultinus elegans*). DOC considers that it may be beneficial to include these other lizard species in TIL's wildlife approval.

Applicant response:

Limited lizard surveys were undertaken at the Site in in 2021 and 2022 by SLR Consulting. Survey areas were chosen to cover the comparatively higher-quality potential habitats across the Site, with large areas subject to active mining deemed unsuitable, and areas currently grazed avoided due to the potential for stock impacting survey tools (artificial retreats), and because of the low habitat quality as a result of grazing. The habitat types available within the Project Site were assessed as unsuitable by SLR for arboreal gecko populations and no targeted gecko surveys were undertaken. Based on the vegetation descriptions and SLR's assessment, the presence of arboreal geckos appears unlikely.

The Project Site is highly modified and has been actively mined for many years. The persistence of lizard populations in vegetated areas across the Project Site is considered very unlikely, particularly arboreal gecko populations (i.e., forest gecko, Pacific gecko and elegant gecko) that require larger tracks of suitable contiguous vegetation to persist. We consider that it is very unlikely that lizard species other than copper skink are present within the Project Site. However, given that there is potential for geckos to be present, the survey and salvage approach is designed to detect both skink and gecko species.

The draft conditions provided to DOC by TIL included provision under WA9 for the (unlikely) scenario where other species of lizard are found during the project works. In that scenario, WA9 provided that DOC would be notified immediately if a native lizard species other than copper skinks were detected. The purpose of this proposed condition was to keep DOC informed and to discuss any alternative management requirements.

With the removal of WA9 as proposed by DOC, in order to provide for this scenario I have recommended (and TIL has agreed) that the wildlife approval be amended to expand its scope and include forest gecko (*Mokopirirakau granulatus*), Pacific gecko (*Dactylocnemis pacificus*) and elegant gecko (*Naultinus elegans*). I consider that the Release Site, following the proposed habitat enhancements and pest control, will be suitable to receive forest gecko, Pacific gecko and elegant geckos in the unlikely scenario this is required. The advice note added by DOC specifying that the approval is for copper skink only has also been deleted.

Section 6.5.11

DOC comment: DOC raises several concerns regarding the proposed lizard release site including:

- the provision of an in-depth assessment of the release site to determine lizard suitability and assess flood risk;
- the size of the release site and ability to exclude pests and browsers at that scale;
- that the site may benefit from additional planting; and
- capacity to expand the release site and pest control area if more lizards are found than currently anticipated.

Applicant response: In my view the size and location of the release site is appropriate given the low number of copper skinks or geckos that are likely to be encountered during the project works (if skinks or geckos are present). Table 2, on page 15 of the LMP provides a conservative estimate of the number of lizards that could be impacted by the Project if all identified potential lizard habitat areas in the northern part of the Central Block and the southern part of the Southern Block are cleared. This conservative estimate is based on habitat potential and does not account for the actual / existing quality of the habitat, nor does it account for the high number of predators that are likely to be present.

However, in the interest of addressing DOC's concern, further information as to the adequacy of the release site and proposed planting have been provided in Section 6.4.3 of the draft LMP. The topography of the Release Site (above Wainui Stream), and the free-draining nature of the local catchment area mean that flooding is very unlikely, and has not been observed.

TIL proposes to install standard stock-proof fencing to keep stock out of the release site. Fencing will be checked by TIL staff annually or following severe weather events (i.e. rainfall

greater than 50 mm within 6 hours or 100 mm within 24 hours or sustained wind speed of 90 km/h or more), or any other event that may have caused damage to the fence. Section 6.4.3 of the draft LMP has been updated to include these details.

In response to DOC's concerns regarding the potential need to expand the size of the release site and the level of pest control and vegetation planting that may be required depending on the number of lizards found, I have amended the draft LMP to include a trigger for TIL to review the size of the release site, as well as the extent and type of vegetation planting and fencing, to confirm its suitability for lizards salvaged as part of the project works. This trigger would be where a specified number of lizards are found. I consider 20 copper skinks to be an appropriate trigger, as this would align with the updated trigger for post-release monitoring (see below).

Section 6.5.13

DOC comment: DOC does not support the Incidental Discovery Protocol, as they consider the actions outlined encourage mining staff to capture lizards and hold them in captivity until the Project Herpetologist can attend.

Applicant response: I note DOC's concern and have accepted the proposed amendment to the Incidental Discovery Protocol outlined in the s51 report. Section 6.4.5 of the draft LMP has been updated to reflect this.

Section 6.5.18

DOC comment: DOC considers the proposed trigger for post-release monitoring (if more than 50 copper skinks are salvaged and released) to be insufficient and has recommended that the trigger be lowered to 20.

Applicant response: I have updated the trigger for post-release monitoring to 20 copper skinks rather than 50, as requested by DOC. This change is included in Section 7.2 of the draft LMP.

Section 6.5.20

DOC comment: DOC considers compensation to be problematic to assess, and their section 51 report raises a number of matters for consideration relating to compensation:

- Compensation should be targeted towards the impacted species (copper skink). However, it could be used to 'trade-up' and benefit more threatened species in the immediate area.
- DOC should be consulted with, and agree on, the recipient group and compensation project. A suitable site, management measures and outcomes would need to be declared.
- Compensation should include the employment of a suitably qualified person to write a plan (certified by DOC) and then the cost of implementing that plan could be put into conditions.
- It is difficult to assess whether the proposed monetary compensation is sufficient, particularly given the cost of personnel and required infrastructure (e.g. bait stations, toxins, traps, monitoring gear).
- An alternative could be a fund for setting up the compensation project, then operational money to enable monitoring, data collation and reporting.

- Ideally the compensation project would continue indefinitely, or at minimum for five years. A project that runs for a single season will have negligible impact.
- The compensation approaches are inherently uncertain, and therefore a robust process is required to leverage the best possible long-term outcome.
- Treaty Partner consultation should be undertaken in relation to compensation. Ngaati Mahuta ki te Hauaauru have expressed interest in determining the administration and implementation of any compensation packages.

Applicant response: We note that Ngaati Mahuta ki te Hauaauru have expressed interest in how the compensation package is administered and implemented. The draft LMP (Section 6.5) already provides for consultation with mana whenua and other stakeholders to determine an appropriate recipient group for compensation. In terms of consultation with DOC, section 6.5 of the draft LMP has been updated to specifically include DOC as one of the stakeholders to be consulted.

In terms of DOC's suggestion of an alternative of a fund for setting up a compensation project, this is essentially what is provided for under the draft LMP already. Section 6.5 of the draft LMP provides for TIL to provide monetary compensation to a local environmental group to support wildlife in the local area through a range of potential measures. However, the compensation will be a one-off lump sum payment rather than ongoing funding. The continuation of any project following payment of the compensation sum is not intended to be the responsibility of TIL – this will be determined by the recipient group and how the money is utilised.

Section 6.5.23

DOC comment: DOC is not satisfied that Alice Dee meets the required qualifications and competencies. DOC recommends that a condition is added to allow personnel, such as Alice Dee, to operate under the supervision of the named personnel above

Applicant response: TIL accepts this revision and has amended the proposed conditions of the wildlife approval accordingly.

Section 6.6.2

DOC comment: DOC notes that certification of the LMP has been proposed in the conditions, in part because previous Fast-track Wildlife Approvals have included certification. DOC raises several considerations regarding the timeframe for certification and has proposed amendments to the proposed wildlife approval conditions to reflect these comments.

Applicant response: I do not consider that the certification process and timeframes proposed by DOC are necessary or reasonable in the context. DOC has provided no timeframe within which the LMP must be certified. It is unreasonable to require no Project Works to commence in Potential Lizard Habitat until an undefined certification process has been completed. This gives TIL no certainty as to when the Project Works can be undertaken and would result in significant operational constraints for what is already a working mine. I have updated the conditions to provide a clear process for certification, including a five (5) working day period for the LMP to be certified, or otherwise for DOC to provide advice to the Approval Holder that the LMP is unable to be certified and the reasons why and/or what amendments are considered necessary. If the latter is the case, then the Approval Holder is able to resubmit an amended LMP for certification. There is also a requirement that certification is not unreasonably withheld or delayed. These conditions are based on the

conditions included in the granted wildlife approval for the Southland Wind Farm Fast-track project.

I have additionally proposed amendments to the conditions (updating the definition of “Potential Lizard Habitat” and adding a new definition for “Updated Habitat Surveys”) to provide for further habitat surveys to be undertaken, and the LMP to be updated, following granting of the approval. These changes are intended to ensure that the final LMP that is provided to DOC for certification includes maps which reflect the most up to date information regarding the location, extent and type of potential lizard habitat present on the site at the time project works will commence.

In response to the concern raised by DOC regarding the purported need to undertake preparatory / pre-salvage works and allow time for these to be done in following certification of the LMP: In my view, it is unnecessary that the bedding in period for the lizard capture devices to occur after certification – installing survey tools could be done in parallel to the preparation and certification of the LMP to avoid undue delay to the Project Works being able to commence. I have proposed that the preparatory / pre-salvage works be detailed in the LMP.

Ngaati Mahuta ki te Hauaaauru

I note that in DOC's s 51(2)(c) report, DOC note that they have considered Ngaati Mahuta ki te Hauaaauru's feedback on the wildlife authority application in providing their comments, and that their comments respond to that feedback.

Section 9.2.6

Ngaati Mahuta ki te Hauaaauru comment: Ngaati Mahuta ki te Hauaaauru request that proposed conditions clearly reference that Ngaati Mahuta ki te Hauaaauru consultation must be given significantly more weight than proposed, particularly in determining the administration and implementation of any compensation packages.

Applicant response: As noted above, the draft LMP already provides for TIL to consult with mana whenua in relation to determining an appropriate recipient group for compensation.

Te Nehenehenui

Section 9.2.7

Te Nehenehenui comment: Te Nehenehenui has advised DOC that it does not support the LMP in its current form and suggested provisions need to be strengthened in order to address adverse effects on indigenous lizard populations. Te Nehenehenui's comments are as follows:

- **Term** – The wildlife authorisation is sought for 10 years, and the proposed mining consent is 35 years. There is uncertainty regarding species management over the subsequent 25 years. Te Nehenehenui proposes that any variation or extension of the authorisation should be subject to demonstration of no-net loss over the initial 10-year period. This should be independently verified and findings shared with mana whenua.

Applicant response: A report will be provided to DOC before the end of the term to assess the success of species management actions. TIL will seek to renew the wildlife approval if

one is needed. Condition WA6 provides that, if TIL wishes to renew its wildlife approval, TIL must review the LMP and resubmit it to DOC for certification before it expires. The purpose of this review is to reassess habitat conditions and characteristics and update the LMP to reflect current species knowledge, as well as best practice lizard management and mitigation techniques.

- **Monitoring** – The monitoring proposed provides little assurance of long-term population viability or indication of successful relocation. The trigger of 50 “At Risk” lizards is too high, and significant adverse effects might occur without any monitoring requirement. The maximum period of three years monitoring seems too short to assess long-term population.

Applicant response: As noted above, the trigger for post-release monitoring has been reduced to 20 lizards.

- **Relocation** – Relocation of indigenous fauna is inherently uncertain and the LMP does not appear to address this. Te Nehenehenui is interested in DOC’s perspective on relocation as a successful or reliable mitigation measure, and whether the LMP should be required to set out relocation ‘success criteria’ and/or consequences if relocation fails. Without these, the LMP is simply setting the framework to observe species decline.

Applicant response: This query is directed at DOC as regulator rather than TIL as applicant.

- **Incidental Discovery Protocol** – While designed to be reactive, it appears to confirm that salvage methodology will not work within this large mining area. The cessation of all activities in a 10 m radius around where the lizard was observed seems too small and it is not clear how machinery operators will be able to prevent lizard injury or death during works.

Applicant response: The incidental discovery protocol (Section 6.4.5 of the draft LMP) has been amended to cease all works until the Project Ecologist / Herpetologist can attend the site and attempt capture of the lizard. We acknowledge that there is a chance that lizards will be missed during salvage works, but this is part of the rationale for a compensation component to the mitigation package.

- **Adaptations to the LMP** – Section 6.4.6 ‘Adaptative Management’ allows for “minor flexibility or adaptations” to the LMP to be made at the discretion of the Project Herpetologist. While amendments may be appropriate, the current wording is unconstrained. At a minimum, the LMP should define what constitutes a “minor” change and require prior approval from DOC. This would ensure any amendment is linked to monitoring results and there is a clear rationale that the change will improve outcomes for lizard populations.

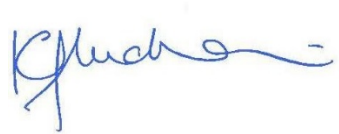
Applicant response: Based on experience, the types of ‘minor changes’ that may come about during a lizard salvage include increasing survey effort in a particular habitat type based on the habitat assessment immediately prior to works, or using survey tools and traps in a different layout better suited to the habitat (vegetation species and complexity). In general, these changes are made when a management approach as described in the draft LMP is not working efficiently.

Review of Conditions

I have reviewed the comments and proposed amendments to the conditions as received from DOC and have tracked changes to the conditions in response to the matters raised by DOC. These are attached as **Appendix A**. These changes relate to definitions, species included in the Application, and the timing and process of certification and the ability to deploy survey tools in parallel with the certification timeframe.

Yours sincerely

BOFFA MISKELL LTD



Katherine Muchna

Senior Principal – Ecologist / Herpetologist

Attachments: Appendix A: Central and Southern Blocks Mining Project Wildlife Approval
 Conditions
 Appendix B: Taharoa Ironsands - Central and Southern Blocks: Draft Lizard
 Management Plan for Wildlife Approval

Appendix A: Central and Southern Blocks Mining Project Wildlife Approval Conditions

DEFINITIONS

The table below defines the acronyms and terms used in the Wildlife Approval conditions. Defined terms are capitalised.

Abbreviation/term	Meaning/definition	
Approval Holder	Taharoa Ironsands Limited	
Authorised Activity	To capture, temporarily hold and relocate any Lizards in Potential Lizard Habitat for the purpose of salvaging them prior to habitat clearance works, and the incidental killing of Lizards during Project Works.	
Authorised Personnel	a) Katherine Muchna (Project Herpetologist) b) Matt Turner c) Jonny Beech d) Suitably qualified personnel under the direct supervision of the named Authorised Personnel.	
DOC	Department of Conservation	
Lizards	Common Names(s)	Scientific Name
	Copper skink	<i>Oligosoma aeneum</i>
	<u>Forest gecko</u>	<u><i>Mokopirirakau granulatus</i></u>
	<u>Pacific gecko</u>	<u><i>Dactylocnemis pacificus</i></u>
	<u>Elegant gecko</u>	<u><i>Nautilinus elegans</i></u>
LMP	Lizard Management Plan	
Potential Lizard Habitat	The areas of potential lizard habitat within the Project Site comprising approximately 14.77 ha , not including mining exclusion areas, <u>identified through Updated Habitat Surveys and identified on Maps 4 and 5 in the draft LMP dated 16 October 2025 or otherwise and</u> defined in the <u>certified</u> LMP.	
Project	Central and Southern Blocks Mining Project listed under Schedule 2 of the Fast-track Approvals Act 2024.	
Project Site	The Central and Southern Block of the land legally described as Taharoa C Block.	
Project Works	The activities within the Project Site that may impact Lizards in Potential Lizard Habitat, if present, including: - Vegetation and topsoil removal; - Overburden removal and ironsand extraction (including habitat clearance); and - Stabilisation and rehabilitation.	
Release Area	The 1-hectare area of replanted vegetation within the Wainui Stream buffer (approximate location 38.168676 latitude, 174.717035 longitude). See Map 6 of the Draft Lizard Management Plan for Wildlife Approval Application dated October 2025).	
<u>Updated Habitat Surveys</u>	<u>Further baseline habitat surveys to be undertaken by a suitability qualified and experienced person to reassess and confirm the areas of Potential Lizard Habitat within the Project Site. These surveys shall be undertaken to inform the LMP that is to be provided to DOC for certification.</u>	

Abbreviation/term	Meaning/definition
Working Day	A day of the week other than— (a) Saturday, a Sunday, Waitangi Day, Good Friday, Easter Monday, Anzac Day, the Sovereign's birthday, Te Rā Aro ki a Matariki/Matariki Observance Day, and Labour Day; and (b) if Waitangi Day or Anzac Day falls on a Saturday or a Sunday, the following Monday; and (c) a day in the period commencing on 20 December in any year and ending with 10 January in the following year.

WA1 The Approval shall expire 10 years after the date the Approval is granted.

- (a) The Approval Holder shall prepare a final LMP. The purpose of the LMP is to protect Lizards within the Potential Lizard Habitat on the Project Site.
- (b) The LMP shall be prepared by a suitably qualified and experienced person, follow best practice in terms of hygiene and animal welfare, and include:
 - (i) Identification of Potential Lizard Habitats within the Project Site (in accordance with Updated Habitat Surveys) to be surveyed for Lizards;
 - ~~(ii)~~ Pre-salvage surveying requirements and methodologies to identify any Lizards within Potential Lizard Habitats prior to Project Works, including:
 - 1 Set up of Lizard capture infrastructure; and
 - 2 'Settling in' of Lizard capture infrastructure.
 - ~~(ii)(iii)~~ Translocation methods of any Lizards identified in Potential Lizard Habitats;
 - ~~(iii)(iv)~~ Protocols for:
 - 1 Hygiene (Lizard disease) protocols to minimise the risk of disease transmission;
 - 2 Currently accepted best practice protocols to minimise the risk of injury or death to Lizards during lizard management; and
 - 3 Incidental death associated with salvage.
 - (v) Measures for the creation and enhancement of Lizard habitat within the Release Area, including animal pest control; and
 - ~~(vi)~~ Post-release monitoring (including animal pest monitoring) and reporting requirements.
 - ~~(vi)(vii)~~ Compensation obligations.
 - ~~(vii)~~ Identification of a suitable Release Area.
 - ~~(viii)~~ Animal pest control and animal pest monitoring measures to protect Lizards at the Release Area.
- (c) At least 20 Working Days prior to the commencement of Project Works, the LMP shall be provided to DOC for certification that the LMP satisfies the requirements of WA1(a) and (b). The Approval Holder and DOC must follow the process set out below:

- ~~(i) The certification (or withholding of certification) of the LMP by DOC must be based on DOC's assessment as to whether the LMP satisfies the requirements of WA1(a) and (b).~~
- ~~(ii) Should the LMP, in the opinion of DOC, satisfy the requirements of WA1(a) and (b), DOC will issue written confirmation to the Approval Holder that the LMP is certified.~~
- ~~(iii) Where the LMP, in the opinion of DOC, does not satisfy the requirements of WA1(a) and (b), DOC will advise the Approval Holder in writing of the shortcomings, including any amendments they consider necessary, and ask that the LMP be amended accordingly and then resubmitted. The Approval Holder will address any written response provided by DOC and resubmit an amended LMP for certification.~~
- ~~(iv) Certification will not be unreasonably withheld or delayed, and certification by, or a written response from, DOC shall take no longer than five (5) working days.~~
- ~~(c) Once the LMP is certified by DOC, Project Works can commence no sooner than 10 weeks from date of certification. During this period the Approval Holder must:~~
 - ~~(i) Set up the lizard capture infrastructure, and~~
 - ~~(ii) Allow for six weeks for 'settling in' of infrastructure, then~~
 - ~~(iii) Proceed with two weeks of lizard capture.~~
- (d) The certified LMP shall be implemented and complied with for the duration of this authorisation.
- (e) The Approval Holder may update the LMP by submitting the amended LMP in writing to DOC for certification in accordance with WA1(c).

Advice note: *the application documents contain a draft LMP which will be finalised through this condition.*

WA2 The Authorised Activity shall be carried out:

- (a) By Authorised Personnel;
- (b) In accordance with the LMP;
- (c) During the period 30 September to 1 May inclusive (date range applies to capturing, temporarily holding and relocating lizards only); and
- (d) For relocation, within the Release Area.

WA3 The Approval Holder must pay the Department of Conservation's standard charge-out rates for any staff time and mileage required to monitor compliance with this Approval and to investigate any alleged breaches of the terms and conditions of it.

WA4 The Director-General may revoke this Approval at any time in respect of the whole or any part (pursuant to clause 7(4) of Schedule 7 of the Fast-track Approvals Act 2024) if:

- (a) The Approval Holder breaches any of the conditions of this Approval; or
- (b) In the Director-General's opinion, the carrying out of the Approval has caused or is likely to cause any unforeseen or unacceptable effects on Lizards.

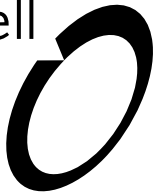
If the Director-General intends to revoke this Approval in whole or in part, the Director-General must give the Approval Holder such prior warning and then prior notice as is reasonable and necessary in the circumstances.

WA5 The Approval Holder must comply with all notices, directions, and requisitions of the Director-General.

- WA6 The Authority Holder must review the LMP and resubmit it to the Director-General for certification before the expiry of the Approval, if it intends to seek a renewal of the Approval. The objective of the review is to re-assess habitat conditions and characteristics and update the LMP to reflect current species knowledge, best practice lizard management and mitigation techniques.
- WA7 Capture and handling methods must involve only techniques that minimise the risk of infection or injury to the animal and must follow those described in the Herpetofauna inventory and monitoring toolbox <http://www.doc.govt.nz/our-work/biodiversity-inventory-and-monitoring/herpetofauna/>.
- WA8 (a) If any Lizards die during salvage activities, the Approval Holder must inform the Te Kuiti DOC Operations Manager (tekuiti@doc.govt.nz) within 48 hours and follow the instructions of the Manager. This may include:
- (i) Chilling the body if it can be delivered within 72 hours of the mortality, or freeze the body if delivery will take longer than 72 hours; and
 - (ii) Sending the body to Massey University Wildlife Postmortem Service for necropsy or as otherwise advised by the Te Kuiti DOC Operations Manager, along with details of the animal's history;
 - (iii) Paying for any costs incurred in investigation of the death of any lizard; and/or
 - (iv) Ceasing the Approved Activity within the Potential Lizard Habitat for a period determined by the DOC Operations Manager.
- (f) For the avoidance of doubt condition WA~~840~~ applies to Lizard deaths that are associated with salvage activities and does not apply to incidental deaths that occur during Project Works. The purpose of clause (a) is to ensure the methodologies and practices for catch, transfer and release are functioning successfully and to require investigation in the event that deaths occur during salvage activities.
- WA9 If any Lizards are found injured on the Project Site, Authorised Personnel must be contacted to get advice on management of the lizard. Injured lizard(s) may be euthanised on recommendation of Authorised Personnel or a veterinarian.
- WA10 If a Lizard is discovered during works, activities in a 10 m radius around where the lizard was observed must cease immediately and searches for any other lizards must be carried out and the remaining requirements of the Incidental Discovery Protocol outlined in the certified Lizard Management Plan must be complied with.
- WA11 An annual report summarising any Lizard salvage and relocation activities must be prepared and submitted to DOC (tekuiti@doc.govt.nz and permissionshamilton@doc.govt.nz) within 30 days from the completion date of the salvage. Specifically, this report is to include:
- (a) Results of any Lizard salvage and relocation work. Should Lizards be found, then the following will also be included in the report:
 - (i) Photos illustrating Lizard salvage methods utilised;
 - (ii) Photos of Lizards captured (including photos of the salvage and relocation areas);
 - (iii) A map showing the location of lizard upon capture and upon release;
 - (iv) The species and number of any Lizards detected, captured, and released; and
 - (v) The results of all surveys and monitoring.
 - (b) Descriptions of how any Lizard management activities outlined in the LMP and relevant conditions detailed in the wildlife approval were followed including animal pest captures and animal pest monitoring results;
 - (c) An Amphibian and Reptile Distribution Scheme (ARDS) card detailing information relating to captured lizards (also to be provided to herpetofauna@doc.govt.nz); and

- (d) A brief summary regarding the outcomes of implementing the LMP, including any improvements/changes that should be implemented in future.

~~Advice Note: This approval is for copper skink and does not authorise any activities in relation to any other lizard species.~~



Taharoa Ironsands - Central and Southern Blocks

Draft Lizard Management Plan for Wildlife Approval Application
Prepared for Taharoa Ironsands Limited

19 June 2026





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Document Quality Assurance

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For any information regarding this report please contact: Katherine Muchna Ecologist Senior Principal katherine.muchna@boffamiskell.co.nz				
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Final V3	16/10/25	Katherine Muchna Ecologist / Senior Principal	Updated with review comments	Scott Hooson Ecologist / Associate Partner
Final V4	17/06/26	Katherine Muchna Ecologist / Senior Principal	Updated based on DOC s51 report	
Approved for issue: Scott Hooson Ecologist Associate Partner 16/10/2025				
Release and Reliance This report has been prepared by Boffa Miskell Limited on the instructions of our Client, in accordance with the agreed scope of work. It is intended to support the Client's application under the Fast-track Approvals Act 2024 and may be relied upon by the Expert Panel and relevant administering agencies for the purposes of assessing the application. While Boffa Miskell Limited has exercised due care in preparing this report, it does not accept liability for any use of the report beyond its intended purpose. Where information has been supplied by the Client or obtained from external sources, it has been assumed to be accurate unless otherwise stated.				

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Cover photo: Taharoa Northern Block with similar habitats © Boffa Miskell 2024

Executive Summary

Taharoa Ironsands Limited (TIL) are proposing to continue their existing iron sand mining operation, concentration, and processing facilities at the Central and Southern Blocks of the Taharoa Mine (Project Site) to enable the export of titanomagnetite from the Port of Taharoa through the Fast-track Approvals Act 2024 ("FTAA").

This Lizard Management Plan describes the management of native lizards within the Project Site, an area of approximately 911 ha south of Kawhia Harbour. This plan is informed by ecological assessments and surveys carried out by SLR Consulting New Zealand (SLR). This report provides the information required for a Wildlife Approval application under the FTAA.

A Wildlife Approval is required for the capture and relocation of native lizards for the purpose of protecting lizards within the mine area. This report describes:

- The native lizard species potentially present in the Project Site
- An assessment of potential effects on native lizards
- Measures to avoid and minimise / mitigate these impacts (including through capture and relocation) in areas of potential lizard habitat
- Methods to prepare the release site and capture, temporarily hold and relocate lizards.
- Compensation to address incidental killing of lizards / inability to salvage all lizards (monetary compensation).

The Wildlife Approval checklist (Checklist E) is provided in Appendix 1 to guide the reader to relevant sections of this Management Plan.

The Project Site has a history of disturbance, dating from the early 1970's when ironsand mining began. Mining has continued across the site over the last 50 years. Plantation pine forestry has occurred on parts of the site as mining operations moved and the remaining sand was stabilised. With this site history, the potential for lizards to persist across the majority of the Project Site is low, even where habitat is present.

The proposed lizard management to capture and salvage lizards is focused on the northern and southern margins that are connected to habitats outside the Project Site where there is, therefore, a source of lizards that could disperse into the site.

The level of effect of removing potential habitat features within the Project Site on the size or viability of local lizard populations is assessed as low, as these are marginal habitats on the periphery of an active mine.

Potential effects on non-threatened lizard fauna can be mitigated and minimised through salvage of individuals within the identified potential habitats and replacing the extent of habitat removed within the wider Project Site at the completion of mining. Compensation is proposed to address the potential for incidental lizard mortality.

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Figure 1: Identified potential lizard habitats. Vegetation type categories are based on SLR (2025a).11

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1.0 Introduction

TIL is seeking approvals through the Fast-track Approvals Act 2024 (“FTAA”) to continue the existing ironsand mining operation on the Central and Southern Blocks at Taharoa C Block (the Project Site), including the concentration and processing of ironsand to continue exporting titanomagnetite from the Port of Taharoa.

This Lizard Management Plan (LMP) is provided to inform the Project substantive application under the Fast Track Approval legislation, and specifically the application for a Wildlife Approval under Schedule 7, clause 2 of the FTAA. This application seeks approval to capture, temporarily hold and relocate, and kill native lizard species. Lizards likely to be present on the site are classified as Not Threatened.

This document follows the format of the Wildlife Approval checklist (Checklist E) to ensure that all required information is provided. The Wildlife Approval Checklist is also provided in Appendix 1 to assist the reader.

This report was prepared based on lizard and vegetation survey data collected by SLR Consulting New Zealand (SLR).

This report should be read in conjunction with:

- Taharoa Ironsands Central and Southern Block Mining Project: Ecological Impact Assessment for wetlands and terrestrial vegetation (EcIA, SLR, 2025a).
- Taharoa Ironsands Central and Southern Block Mining Project: Ecological Assessment - Fauna (EcIA, SLR, 2025b)
- Substantive application report prepared by Tonkin and Taylor Ltd, dated September 2025

2.0 Purpose of the proposed activity (s7, cl 2(1)(i) of the FTAA)

TIL seeks a wildlife approval to:

- **capture, temporarily hold and relocate** lizards prior to site clearance works for the purpose of protecting animals within the works footprint; and
- **incidentally kill** lizards, recognising that trapping / handling activities carry some risk of injury or mortality, and that any remaining undetected lizards may also incidentally be killed during site works.

The approach to the management of native lizards within the Project Site prior to, and during works, is described within this report.

TIL seeks that the duration of the wildlife approval be **10 years** to ensure that the term of the approval adequately covers the initial stages of the operation. TIL intends to apply for a variation to extend the term of the approval as required beyond the initial 10-year term. The term of the resource consent applied for is 35 years.

The requested term is **1 January 2026 – 1 January 2036**.

3.0 Actions to be carried out and locations in which the activity will be carried out

3.1 Actions to be carried out

The specific actions proposed involving protected wildlife are:

- capturing lizards using pitfall / funnel traps and by hand;
- handling lizards to identify species, measure and photograph them;
- releasing lizards into a prepared release site; and
- incidental killing of lizards that could not be captured.

Catching and handling actions are to occur within the Project Site.

3.2 Site Location, History and Context

3.2.1 Location (s7, cl 2(1)(h) of the FTAA)

The Taharoa Ironsands Mine (the Mine) is located on the west coast of the North Island, south of Kawhia Harbour. The mine comprises two areas, the Northern Block and the South / Central Block. The Project Site of this management plan is the Central / Southern Blocks, south of Mitiwai Stream (Map 1). The approximate centre of the Project Site is located at -38.170271 latitude, 174.712854 longitude.

Lizard release is to occur at the proposed release site, in land excluded from mining near Wainui Stream (approximate location 38.168676 latitude, 174.717035 longitude). This site is further discussed in Section 6.4.3 of this report.

3.2.2 Site history

This management plan is informed by the archaeological assessment prepared by Clough and Associates (2025). The Archaeological Assessment describes the long history of sandmining within the Project Site, with evidence (from aerial imagery) of sandmining before 1974. Additional landscape modifications included road construction, stream realignment and creation of dams. In the following decades, sandmining proceeded across the landscape of the Central and Southern Blocks. Plantation forestry was established in the Central Block and was clearly visible in aerial imagery from 1997. The forestry was subsequently harvested, and further mining was carried out in the Southern Block, moving into the southern part of the southern block from 2001. From 2013, the majority of the Project Site was a mix of plantation forestry in formerly mined areas and ongoing mining in the Central Block.

3.2.3 Vegetation cover and features

Field surveys conducted by SLR in 2021-22 identified 39 vegetation types within the Project Site (SLR 2025a). The Central Block site is predominantly bare or sparsely vegetated sand, comprising sparse patches of sand sedge (*Carex pumila*), marram grass (*Calamagrostis arenaria*) and tree lupin (*Lupinus arboreus*). This covers over 380 ha and includes all the active mine areas and tailings cells.

The Southern Block has more variable vegetation, in part because it has not been mined for a longer period of time and rehabilitation planting has occurred in some areas. As noted above, plantation pine forestry has occurred in parts of the Project Site, this has resulted in areas of wilding radiata pines across the Project Site. A large area of plantation pine forest is located next to Lake Taharoa on the eastern boundary of the Project Site.

The Project Site also contains multiple wetlands, ponds, channels, and depressions. Many of these were formed from the hollows and swales created by mining operations. Grazing by feral cattle and horses is also notable in some areas.

Vegetation cover and the existing environment as it pertains to lizard habitats is described in Section 5.3.

Areas excluded from future mining within the Project Site include:

- TIL Reserved Land (archaeological and culturally significant areas reserved from mining);
- Significant Natural Areas;
- A 30 m buffer around perennial water bodies; and
- A 100 m buffer around the mean high water springs (MHWS) along the coast.

These exclusion areas are shown on *Map 1: Taharoa Ironsand Mine Site Location South and Central blocks*.

4.0 Assessment of the activity against the purpose (s7, cl 2(1)(c) of the FTAA)

The primary purpose of the Wildlife Act 1953 ("Wildlife Act") is the protection of wild animals.

The activities subject to wildlife approval are consistent with the protective purpose of the Wildlife Act, as protection of lizards is achieved through:

- capturing and relocating lizards in habitat clearance areas prior to vegetation removal activities and earth working; and
- creation of a lizard release site with habitats designed to support lizards, and pest control to suppress predators.

5.0 Wildlife species, impacts and effects

5.1 Survey records¹(s7, cl 2(1)(d) of the FTAA)

Lizard surveys using triple-stacked artificial retreats (ARs) and manual search methods were undertaken by SLR (SLR, 2025b). A total of 20 ARs were installed in September 2021, checked in December 2021 and February 2022. AR sites were chosen to cover the comparatively higher-quality potential habitats across the Site, with large areas subject to active mining deemed unsuitable, and areas currently grazed avoided due to the potential for stock impacting ARs.

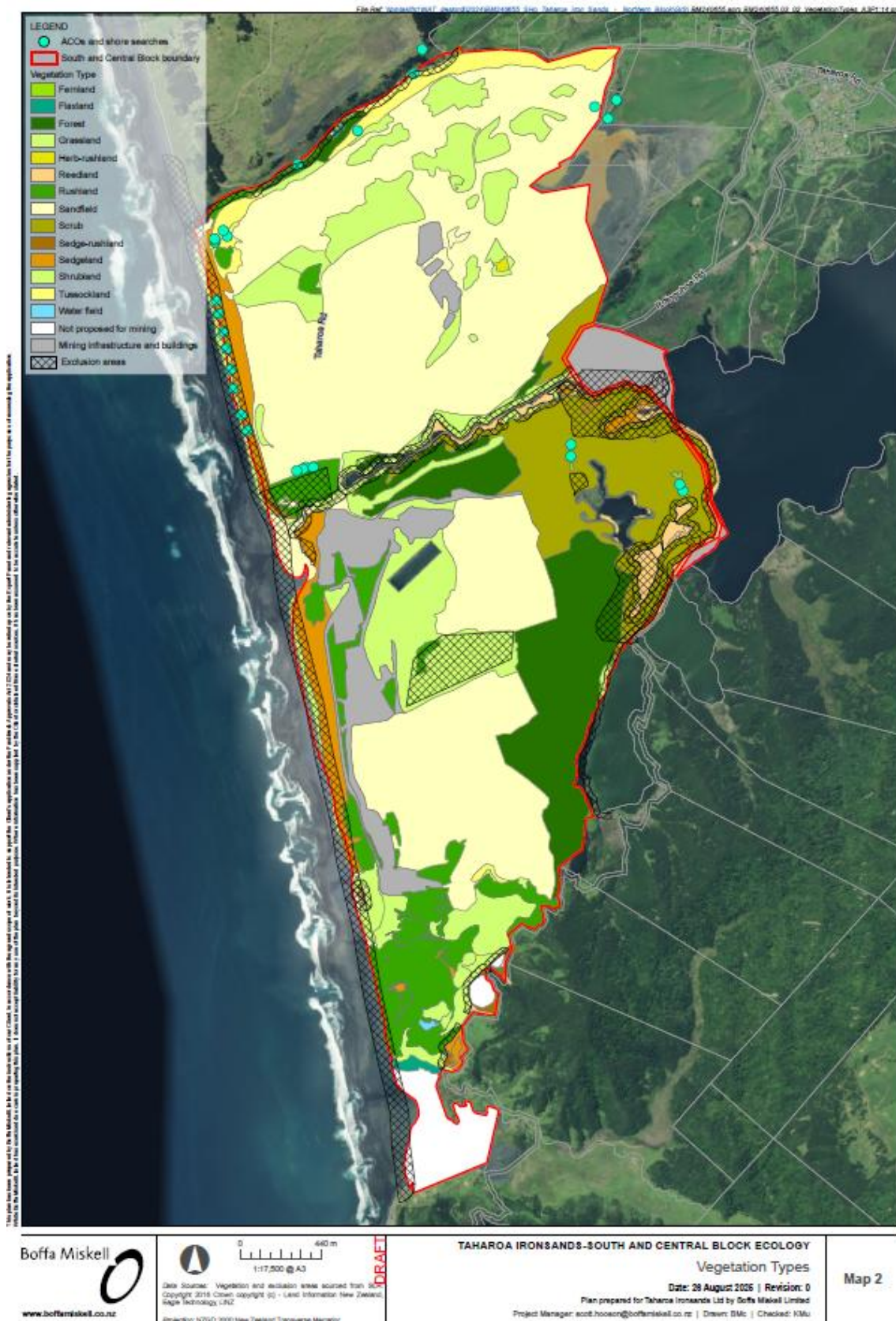
Habitats where ARs were installed included pine slash piles, back dune vegetation and forest edges. The locations of the ARs are shown in Map 2. Manual hand searches of suitable habitat were carried out by four ecologists around the AR deployment sites and along the coastal foredunes.

The habitat types available within the Project Site were assessed as unsuitable by SLR for native arboreal gecko populations and no targeted gecko surveys were undertaken as part of this assessment. Based on the vegetation descriptions and their assessment, the presence of arboreal geckos appears unlikely.

No native or invasive skinks were identified during the surveys. SLR also noted that, anecdotally, TIL staff have not observed lizards on the Project Site during their time there. Surveys using a greater range of methods with a more intensive and wider coverage (particularly in the Southern Block) would better inform this assessment. It is possible that lizards are either absent, or present on the Project Site at low densities based on the habitats available and the history of disturbance at the Site.

Lizard surveys conducted in a neighbouring site, the Northern Block, detected a single copper skink.

¹ Principle 1 of the 9 Principles of Lizard Salvage.



Map 2: Vegetation types and lizard survey locations. Data based on SLR surveys in 2021-2022.

5.2 BioWeb records²

Lizards are cryptic and difficult to detect, particularly at low densities and in the presence of predators. The DOC Herpetofauna (BioWeb) Database provides useful additional information on taxa potentially present within a given search area to supplement survey data, while recognising that Bioweb records reflect observer expertise and the level of search effort in an area.

BioWeb records in the vicinity of the Project Site and surrounding area are very sparse so there is limited contextual information available with respect to the distribution and abundance of lizard populations (Map 2).

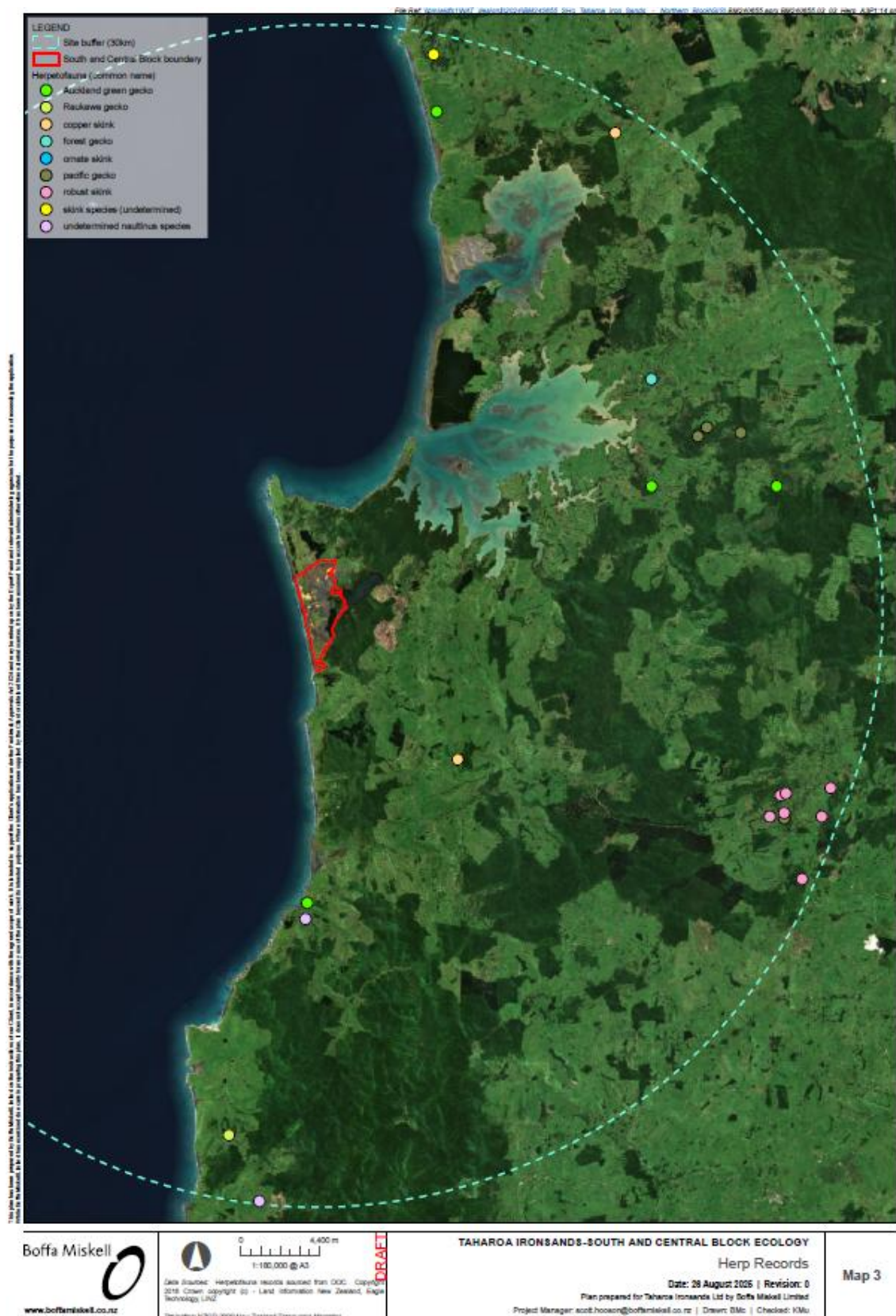
The Bioweb Database holds records for four native lizard species within 30 km of the Project Site (Table 1). Of the species recorded, only one species of skink (copper skink) is likely to be present within the Project Site given the existing vegetation cover and disturbance history of the area, as this species is widespread and more typically found in modified habitats. Records of native frog species (Archey's and Hochstetter's frogs) have been excluded from the dataset as the site does not provide suitable habitat for native frogs.

None of the species identified in Table 1 are classified as 'Threatened' in the New Zealand Threat Classification System.

Table 1. Native lizard records within 30 km of the Project Site and species' habitat preferences. Excluding apparently erroneous records (i.e. Raukawa gecko, known from the east coast of the upper North Island, robust skink now restricted to islands on the west coast). Waikato Region does not have a regional threat classification for lizards. Copper skink (pale blue row) is the only native species likely to be present at the Project Site based on the habitats present and the site's disturbance history.

Species	Threat classification (Hitchmough et al., 2021)	Habitat (Van Winkel et al., 2018)	Distance of closest record	Most recent record	Number of records
Copper skink (<i>Oligosoma ornatum</i>)	At Risk - Declining	Occupies a range of coastal and lowland habitats such as coastal vegetation, grassland, scrub and forest. Refuges include leaf litter, rocks, logs, flax and rank grass.	Northern Block of Taharoa Mine	2021	3
Forest gecko (<i>Mokopirirakau granulatus</i>)	At Risk - Declining	Occupies a broad habitat niche, including coastal and lowland habitats as well as montane and alpine habitats if available. Inhabits forests, scrubland and herbfields.	25 km	1986	1
Pacific gecko (<i>Dactylocnemis pacificus</i>)	At Risk – Relict	Occupies coastal and lowland habitats including boulder beaches, scrubland, flaxland and forest.	22 km	1980	3
Elegant gecko (<i>Naultinus elegans</i>)	At Risk - Declining	Gumland, scrubland and forested habitats	17 km	2004	6

² Principle 1 of the 9 Principles of Lizard Salvage: Lizard species' values and site significance must be assessed at both the development and receiving sites.



Map 3 Bioweb Database lizard records (DOC 2024).

5.3 Lizard habitats within the site

In the consenting context, the existing environment assumes that the environment is as it would be when any existing regional resource consents expire. In this case, this means that the area to be mined would now include open pasture, vegetation and sand dunes, as rehabilitated in accordance with the conditions of the consent (i.e. progressively rehabilitated before final rehabilitation occurs in the lead up to mine closure). It is anticipated that in these conditions, the rehabilitated mine area would provide potential habitat for lizards as determined by the completed ecological surveys.

A total of 39 vegetation types were described by SLR (SLR, 2025a). These are mapped in Map 2 in a simplified form showing vegetation categories. The majority of the Project Site (380 ha) is bare or sparsely vegetated sand with patchy sand sedge, marram grass and tree lupin. In the Southern Block, vegetation cover includes kikuyu-dominated pasture interspersed with knobby clubrush, tree lupin and marram grass. A band of harakeke (flax) is present at the very southern edge of the proposed mining area.

Wetland-associated vegetation types, including rushlands, reedlands and herb-rushlands are present around wetlands in the eastern and south-eastern parts of the Project Site. Plantation pine forest is present in an 80 ha area adjacent to Lake Taharoa and in smaller fragments across the Project Site. Along the coastal fringe, part of the foredune is dominated by spinifex, with a more stable vegetated area behind it dominated by knobby clubrush.

Whilst many of these vegetation types *could* provide habitat for native lizards, the likelihood of lizards being present is low. This assessment takes into consideration the history of the Project Site including continuous activity for more than 50 years that has progressively stripped all the vegetation; and the natural features such as lakes, wetlands and rivers that restrict dispersal into the Project Site on the northern, southern and eastern boundaries. For these reasons, it is unlikely that lizards are present throughout the majority of the site.

However, where suitable vegetation / habitat is present in the northern and southern parts of the Project Site that are connected to adjacent (unmined) areas, lizards are more likely to be present. Management of lizards in this plan focusses on these areas, identified in Table 2 and Maps 4 and 5. Using the vegetation categories described by SLR (2025a), potential habitats in the northern and southern boundary areas are shown in Figure 1. These vegetation types include:

- Vegetation type 2: Knobby club rush - (gorse) - (lupin) - (pampas) / pasture – pōhuehue (*Rushland*)
- Vegetation type 16: Pampas - [tree lupin] / pasture (*Tussockland*)
- Vegetation type 20: Radiata pine (*Forest*), and margins
- Vegetation type 27: Grey willow / (raupō) - (harakeke) (*Scrub*)
- Vegetation type 35: Inkweed (*Shrubland*)
- Vegetation type 1: Harakeke (*Flaxland*)

**Northern
boundary**

Vegetation
type 2:

Knobby club
rush - (gorse) -
(lupin) -
(pampas) /
pasture –
pōhuehue

(Rushland)



**Northern
boundary**

Vegetation
type 16:

Pampas - [tree
lupin] / pasture

(Tussockland)



**Northern
boundary**

Vegetation
type 20:

Radiata pine

(Forest)



Northern boundary

Vegetation type 27:

Grey willow /
(raupō) -
(harakeke)

(Scrub)



Southern boundary

Vegetation type 1:

Harakeke

(Flaxland)



Figure 1: Identified potential lizard habitats. Vegetation type categories are based on SLR (2025a).

5.4 Numbers impacted and effects³ (s7, cl 2(1)(c) and (e) of the FTAA)

5.4.1 Description of proposed works

The activities within the Project Site that may impact lizards, if present, are described in the substantive application report (Tonkin and Taylor Ltd, 2025), and include:

Vegetation and topsoil removal

Vegetation and topsoil are removed separately from any underlying material to allow appropriate reuse in rehabilitation phases. This typically involves:

- Harvesting of any large trees with commercial value (i.e. pine plantations).
- Removing other vegetation (i.e. scrub and smaller trees) with earthmoving machinery (i.e., bulldozers and excavators). The vegetation is stockpiled to naturally compost for later use around the site. In addition, useful native species are removed prior to stripping of topsoil for use in the eco-sourced nursery on site.

³ Principle 2 of the 9 Principles of Lizard Salvage: Actual and potential development-related effects and their significance must be assessed.

- Stripping of topsoil and stockpiling for use in future rehabilitation activities.

Overburden removal and ironsand extraction

- Heavy earthmoving machinery (excavators, trucks, bulldozers etc.) is used to remove and stockpile the overburden. This stockpiled material is reused for landform recontouring during rehabilitation.
- Ironsand is extracted using various methods and equipment depending on ground conditions and mining methodology. In upper layers, standard earthmoving machinery such as excavators, bulldozers, and trucks are used to collect the ironsand.

Earthworks required for these steps have the potential to create dust which may deposit on habitats adjacent to the active mining areas.

Stabilisation and Rehabilitation

Once the tailings have dewatered, mechanical plant (excavators and bulldozers) redistribute the material to form the grade and levels required by the rehabilitation plan for that area. Following this the land may be stabilised, top-soiled and replanted.

An eco-sourcing nursery has been set up on site to provide some plants for use in the rehabilitation of previously mined areas. Where vegetation removal is required as part of preparatory work for mining activity, native species will be transplanted and used in the ongoing development of native stock at the nursery.

In the future, these areas where tailings have been disposed may be re-mined if it becomes economically viable to do so (i.e. if extraction processes become more efficient).

5.4.2 Numbers impacted

The historic land use at the Project Site as well as current mining activity and pine harvesting (see Section 3.2.2) makes it very unlikely that lizards would persist within interior parts of the Project Site. For this reason, these areas are excluded from further consideration as potential habitat, regardless of vegetation cover. Potential habitats that may be occupied by lizards include boundary areas in the northern part of the Central Block and the southern part of the Southern Block that are connected to surrounding habitat outside of the previous or existing mine areas (Figure 4, Table 2). The effects on lizards in the identified potential habitats are described in Section 5.4.3. The areas of **potential lizard habitat** within the Project Site comprise 14.77 ha, not including mining exclusion areas.

This assessment presumes current land management and vegetation cover remains much the same until vegetation is cleared. If lizard habitats develop in areas adjacent to the potential habitat areas shown in Figures 4 and 5, prior to activities commencing, the extent of lizard habitat may need to be reassessed. A site inspection will be carried out prior to clearance in areas adjacent to the potential habitat areas shown in Figures 4 and 5, and the findings will be documented and provided as described in Section 7.1

5.4.3 Potential effects of the proposed activity if lizards are present (sch 7, clause 2(1) (e) and (j) of the FTAA)

Habitat loss and fragmentation

There will be complete loss of habitat in all mined areas, as the mining process involves removing all vegetation and topsoil from the area, and then excavation of the ironsand beneath. Mined areas will be rehabilitated once mining is complete, although this does not preclude future use (see Section 5.4.1).

The magnitude of the effect of removal of identified potential lizard habitats in the northern and southern margins of the Project Site is assessed as Low⁴. Despite being the most connected and intact habitats, any lizards present are subject to intermittent habitat disturbance from grazing, mining activities (e.g. vibrations, dust) and uncontrolled predators. If present, lizards are likely at low density. Copper skinks are classified as 'At Risk – Declining' and have High ecological value if present. The level of effect of habitat removal on copper skinks is **Low**⁵.

The potential magnitude of effect of habitat fragmentation is assessed as Negligible⁶, based on the lizard habits within the mining area and the mining methodology whereby large areas are earthworked in stages, moving across the site, rather than isolating pockets of habitat. The level of effect of habitat fragmentation on copper skinks is **Very Low**.

Injury, death or disturbance during vegetation clearance

In the absence of management, habitat clearance may result in death of, or displacement of, lizards into the surrounding sparse vegetation, which affords limited habitat for lizards, being predominantly patchy sand sedge, marram grass, tree lupin, and bare sand with a presumed low carrying capacity for lizards.

Lizards are particularly vulnerable to injury and mortality during vegetation clearance because they are visually and behaviourally cryptic (hiding under cover when disturbed), have low mobility (especially in cooler temperatures), and are inactive for parts of the year.

If lizards are present, injury and death of any resident lizards in habitat patches during vegetation removal and mining is likely in the absence of management, though the magnitude of effect on the overall abundance or viability of remaining meta-populations is Low, given the low likelihood of lizard presence and likely low abundance of lizards. The level of effect of injury or death during vegetation clearance at a meta-population scale is **Low**.

Noise, dust and vibrations

Disturbance and sub-lethal stress to lizards during mining operations, such as noise, dust and vibrations, may impact lizards that are predominantly ground-dwelling (i.e. copper skink). However, various extents of the Project Site have been operated as a mine for over 50 years and have been subject to a level of disturbance which will continue to at least the same level in future operations. The magnitude of effect on lizards from increased dust and vibrations is

⁴ Based on the EIANZ criteria for describing magnitude of effect (Table 8) (Roper-Lindsay et al. 2018). A low magnitude of effect corresponds to "Minor shift away from existing baseline conditions. Change arising from the loss/alteration will be discernible, but underlying character, composition and/or attributes of the existing baseline condition will be similar to pre-development circumstances or patterns; AND/OR Having a minor effect on the known population or range of the element/feature" within the context of the local environment.

⁵ Based on the EIANZ criteria for describing level of the effect (Table 10) (Roper-Lindsay et al. 2018).

⁶ Based on the EIANZ criteria for describing magnitude of effect (Table 8) (Roper-Lindsay et al. 2018). A negligible magnitude of effect corresponds to "Very slight change from the existing baseline condition. Change barely distinguishable, approximating to the 'no change' situation; AND/OR Having negligible effect on the known population or range of the element/feature".

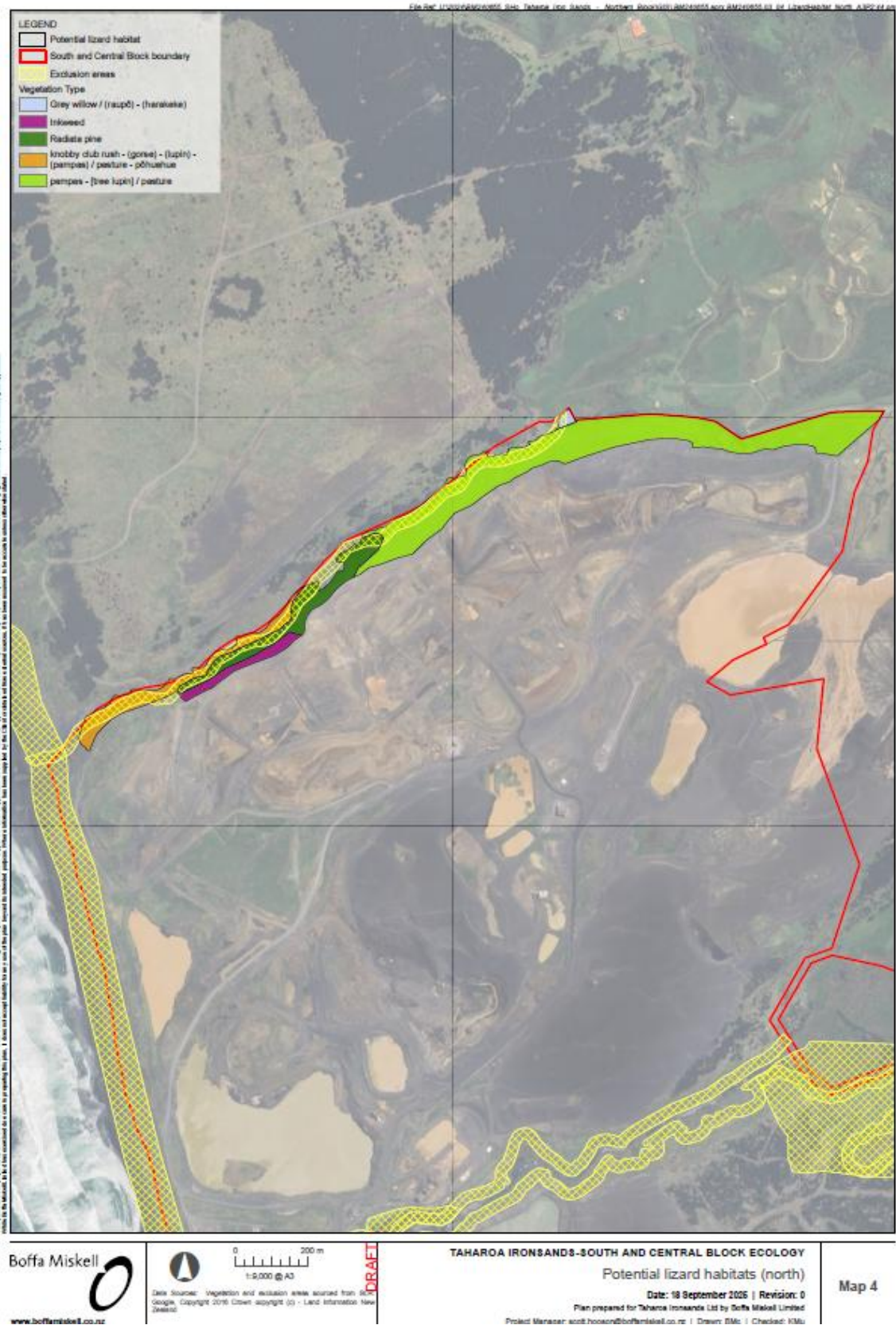
assessed as Negligible given that the mining operation has been active across the Project Site for a long time. The level of effect of noise, dust and vibrations on copper skinks is **Very Low**.

This assessment of the level of effects on copper skinks within the Project Site is consistent with SLR 2025b.

The extent of identified potential lizard habitat and anticipated number of lizards that may be impacted within the Project Site is provided in Table 2.

Table 2: Lizard habitat suitability of vegetation communities within the Project Site. Estimates of the number of lizards potentially impacted assumes all the habitat of this type identified in Figures 4 and 5 is removed (not including the exclusion areas that will not be mined). Description of lizard habitat value is based on Table 10 of SLR 2025a and review of aerial photography.

Plant Community		Lizard habitat value	Project Site area
Vegetation categories (SLR, 2025a)		Terrestrial habitats	(ha)
1	Harakeke (Flaxland)	Harakeke dominated vegetation is present in a small patch near the northern boundary of the Project Site and a larger area in the southern margin of the site where it connects to an SNA. In the south, this vegetation may provide some connectivity between the inland hills and coastal fringe populations. Being predominantly located in the southern part of the site that has had minimal mining activity this area has the highest likelihood of lizard occupancy. A small number of lizards may be impacted (<100.)	1.30
2	Knobby club rush - (gorse) - (lupin) - (pampas) / pasture – pōhuehue (Rushland)	This vegetation type is on the northern boundary of the site <u>only</u> and may provide habitat for lizards with pampas and pōhuehue providing cover and food resources. A small number of lizards may be present (<100).	0.94
16	Pampas - [tree lupin] / pasture (Tussockland)	This vegetation type is on the northern boundary of the site <u>only</u> , may provide complex habitats for lizards, and is connected to neighbouring pasture and Mitiwai Stream. A small number of lizards may be impacted (<100.)	10.09
20	Radiata pine (Forest)	This vegetation type is on the northern boundary of the site <u>only</u> , comprises a narrow windbreak / slash, and woody material may provide low quality habitats for lizards A minimal number of lizards may be present (<20).	1.52
27	Grey willow / (raupō) - (harakeke) (Scrub)	This vegetation type is on the northern boundary of the site <u>only</u> and may provide sufficient cover for lizards in harakeke. Some areas may be too wet for permanent lizard occupation. A minimal number of lizards may be present (<20).	0.09
35	Inkweed (Shrubland)	Dense inkweed would likely create too much shade for native lizards, but patchy cover may provide low quality habitat for native lizards. A minimal number of lizards may be present (<20).	0.83
TOTAL			14.77 ha



Map 4: Potential lizard habitats along northern boundary of Central Block.

5.4.4 Summary of potential effects if lizards are present

The proposed management methods to address these impacts are summarised in Table 3 and described in detail in Section 6.0.

Table 3: Summary of effects management for lizards.

Effect	Management method
Habitat loss and fragmentation	Habitat loss is a certainty if lizards are present. Vegetation remediation at the completion of mining is proposed as described in the Site Rehabilitation and Closure Plan. We note that there is likely to be a time lag between mining and remediation, so any benefit is far in the future.
Injury, death and disturbance during construction	Lizard surveys and salvage will be undertaken in areas identified in Figures 4 and 5 prior to clearance. These surveys will be extended beyond these areas if suitable habitat has expanded and lizards may have dispersed into those areas (as explained in s 5.4.2 above). Where lizards are detected, they will be captured and relocated to a prepared release site using standard salvage and relocation methods by a suitably qualified and experienced ecologist(s). To reduce the likelihood of skinks from adjacent lizard habitats moving into habitats inside the Project Site during and following the salvage, any connected areas of lizard habitat where lizards are detected are to be temporarily fenced off with a lizard-proof silt fence until the adjacent habitat is removed. If the fence is in place for more than 3 months following salvage, clearance areas will be resurveyed.
Stress and disease transmission	Lizards will be placed in individual containers and kept in a cool place until released. Handling will be minimised to ensure they do not become stressed. All traps will be checked daily in the morning. Lizard handling will follow best practice and hygiene protocols to minimise the risk of disease transmission. Details on storing and handling procedures are provided in the Section 6.4.2.4 of this report.
Lizard release site and pest control (positive)	Pest control is proposed at the release site, as described in Section 6.4.3.3 of this report and in SLR 2025c. Pest control is also proposed for the offset site and all buffer zones (SLR 2025c).

6.0 Methods (s7, cl 2(1)(g) and (k) of the FTAA)

6.1 Overview s7, cl 2(1)(f) of the FTAA)

As described below, lizard management will follow best practise standards provided in Department of Conservation guidance documents. These include methods to survey and capture lizards (DOC 2012) and follow the 'Principles for Lizard Salvage Translocations' (DOC 2019) and 'Guidance for lizard habitat clearance' (DOC 2023).

It is not possible for mining operations to avoid all potential lizard habitat. The rationale for lizard salvage as a management tool is provided in Section 6.3.1. This addresses Principle 3 of the 9 Principles of Lizard Salvage, “alternatives to moving lizards must be considered”.

6.2 Approach

Based on the lizard habitat assessment described in Section 5.3, which determined the majority of the Project Site area is unsuitable for lizards, the lizard management approach is to target any lizard survey and salvage activities in high quality, connected habitat areas. If any lizards are detected, salvage effort will be increased, and compensation will be provided.

6.3 Avoid

If native lizards are present within the Project Site, it is not possible to avoid impacts on them as the project proposal includes the ability to remove all of the vegetation within the Project Site, excluding the mining exclusion areas.

6.4 Minimise

6.4.1 Dust management

To monitor and control airborne dust which may arise due to meteorological conditions and mining activities, the mine operates under an alert level framework where meteorological conditions and total suspended particle (TSP) concentrations are monitored, and subsequent control measures are increased as the alert levels rise to a point where work is ceased at Level 4 (PDP, 2025). Dust management is set out in the draft Environment Management Plan appended to the substantive application.

6.4.2 Lizard survey and salvage

Within the context of the Project Site, the identified potential lizard habitats are relatively small in total extent, and capture and relocation of lizards (“salvage”) is an appropriate tool to minimise the potential effects described in Section 5.4.3.

Any lizard survey and salvage will occur in suitable weather conditions between October to April and will be undertaken in fine weather conditions between 12- 25 degrees.

We consider that there is little benefit to undertake further baseline surveys given the low density / lack of lizards, as well as the staged nature of the mining programme. Lizards have not been previously detected within the site, and if present, are likely at low density. For this reason, a pre-clearance survey / salvage approach is proposed for identified potential lizard habitats only.

There is likely a considerable time lag between this assessment, and vegetation clearance in parts of the Project Site (because of the staged nature of mining activity), allowing potential lizard habitats to expand. For this reason, areas adjacent to the identified habitats should be examined by the Project Herpetologist, and salvage should occur in these areas if habitats are suitable. The assessment of proposed clearance areas adjacent to identified habitats would include an assessment of habitat types (vegetation species, refuge potential), complexity and

connectivity to identified habitats. Survey and salvage effort will expand into this area if habitats are assessed as suitable, and if lizards were detected in neighbouring identified habitats.

6.4.2.1 Pre salvage survey

A minimum of five days of survey will occur at all identified potential habitats to inform subsequent steps and salvage requirements. This survey will involve the use of tracking tunnels and traps.

Trapping intensity in potential habitats will begin with approximately 10 m spacings of trapping tools (artificial retreats (ARs), gee minnow traps and pitfall traps – dependent on the habitat) micro-sited around habitat features to maximise detection. Tracking tunnels will also be deployed at approximate 10 m spacings to detect lizard presence over this period. The initial trapping period will be a for 5 trap days in suitable weather as determined by the Project Herpetologist.

If lizards are detected at any time, salvage activities will begin immediately and trapping intensity will increase to 5 m spacing of trap tools in an approximate grid layout. The trapping period will extend for a maximum of 10 trap days, (including the 5 day survey period). The habitat area will be fenced with lizard-proof fencing to prevent lizards dispersing into the area from surrounding habitats.

If no lizards are detected after 5 days, trapping will cease in that area, and no further management will be required.

All lizards captured will be taken to the release site within 2 hours (Section 6.4.2.3).

6.4.2.2 Methods of lizard capture / salvage⁷

Lizard survey and salvage tools are consistent with the DOC Biodiversity Inventory And Monitoring Toolbox (DOC 2012). Methods include:

Live trapping using pitfall or mesh funnel traps:

Transects and/or grids of traps will be installed throughout each area that will be subject to vegetation clearance. Pitfall traps will be installed in combination with ARs, at roughly 10m intervals in close proximity to habitat features to ensure that a trap is located within the home range of as many terrestrial lizards in the area as possible.

Pitfall traps consist of a four-litre bucket that is dug into the ground so that the lip of the bucket sits flush with the soil surface (or slightly below). Buckets have small puncture holes at the base to allow water to drain through (ensuring lizards won't drown in case of heavy rain). A single layer of Onduline AR will be used to cover each pitfall trap and will be anchored down using pegs or weighed down using a rock or log. Traps will contain a damp sponge or moss, and pear or banana bait as well as leaves / grass for cover.

Mesh funnel traps will be filled with grass (to provide cover for trapped lizards), a piece of damp sponge or moss and pear or banana bait. Traps will be placed in shaded areas or covered in vegetation to prevent lizards overheating.

All traps and ARs will be installed at least 6 weeks in advance of trapping, although traps will be non-operational. All traps will be inspected within 24 hours from the last check in suitable weather.

⁷ Principle 5 of the 9 Principles of Lizard Salvage: Lizard salvage, transfer and release must use the best available methodology

Artificial retreats (ARs): A network of ARs will be deployed on the ground throughout edge vegetation and habitats that are to be cleared. ARs will be deployed as double-layered stacks and targeted to vegetation and micro-sites that represent potential terrestrial lizard habitat such as pampas tussocks, wood debris and slash piles. This tool requires at least a six-week lead in time for lizards to habituate to the novel items and begin utilising them as refuge. Following six weeks *in-situ*, ARs will be inspected daily for a minimum of five consecutive days. If possible, inspections will be made in the mornings before 9 am or late afternoons after 3 pm (or later), to maximise the likelihood of lizards being present.

Manual and visual searches:

Hand-searching will be undertaken throughout all relevant habitats during the initial 5-day survey period. This involves lifting and inspecting beneath any potential object of lizard refuge (e.g. logs, woody debris and sifting through leaf litter where present).

Mechanical habitat removal

If lizards continue to be trapped on the 10th day of trapping, mechanical methods will be employed to capture any remaining lizards. This includes using a digger with a claw attachment to 'scrape back' grassy habitats and deconstruct pampas tussocks.

6.4.2.3 Lizard transport and release

Lizards will be held individually in cloth bags in a secure, vented container out of the sun. Lizards will be transported to the release site or captive holding facility and will not be held for more than 2 hours.

Lizards will be released into prepared habitats (e.g. dense grassland and woody refuge piles) in the release site.

6.4.2.4 Risks and animal ethics considerations

Potential risks associated with the proposed management plan:

- ***Overheating:*** lizards will be placed in individual containers and kept in a cool place until released. Handling will be minimised to ensure they do not become stressed. All traps will be checked daily in the morning. Pitfall site selection, trap placement and equipment will follow the guidance of Turner et. al. (2024) to prevent elevated temperatures within the pitfall traps.
- ***Overcrowding/competition:*** overcrowding or competition at the release site is considered a low risk. Revegetation planting in this area is approximately 10-15 years old, having been previously mined and with no obvious source population for lizard dispersal. A lizard survey will be carried out at the release site prior to any lizard salvage and additional habitat features will be added.
- ***Displacement:*** A lizard-proof fence will prevent rehomeing into the works area in areas where lizards are detected in adjacent habitat.
- ***Injury/death:*** lizards will be captured by a suitably trained herpetologist or individual. The LMP requires best practice and hygiene protocols to minimise the risk of injury, mortality or disease transmission.

Potential risks mentioned here will be minimised using an experienced herpetologist and suitably experienced field staff under the supervision of the herpetologist.

6.4.2.5 Management of post search/salvage debris

Preferably, vegetation and debris (if clean organic debris) will be deposited in areas to be retained adjacent to existing vegetation and left to naturally decay or in areas where planting is proposed in accordance with the recommendations for lizard habitat enhancement in Section 6.4.3.2.

If that is not possible, materials should be mulched and immediately disposed of. If material is stockpiled for any reason, and lizards have been detected within 20 m of the stockpile, the Project Herpetologist must deploy ARs around the debris pile which must be checked, and any native lizards salvaged. Debris piles which have been in place for greater than 12 weeks and adjacent to retained habitat must be treated using the full survey / salvage methodology outlined above as native lizards may migrate into the dense cover provided by the debris pile from surrounding areas.

6.4.3 Lizard release site⁸

6.4.3.1 Location and rationale

The proposed lizard release site is a 1 ha area of replanted vegetation (10 – 15 years old) within Wainui Stream buffer (Map 6). The release site is connected to a wider buffer area and TIL reserved land to the east. There is no further mining proposed in the land directly to the south and this land to the south will be gradually rehabilitated once temporary ponds associated with mining activities are no longer required. As such, there is a larger habitat area outside of the designated lizard release site for translocated lizards to expand into.

Vegetation within the Wainui Stream buffer, outside of wet margins, generally includes pampas, gorse, tree lupin, wiwi, flax, and manuka scrub with rough pasture and occasional wilding pines. This habitat is broadly suitable for copper skinks, despite being weed-dominated (Figure 2). Vegetation enhancement to benefit lizards by providing food and cover resources is required to support lizard population growth in the long term. Revegetation for stream buffer and lizard habitat areas are described in the Natural Inland Wetland Management Plan (SLR, 2025c)⁹. We recommend that control of gorse and tree lupin are prioritised at the release site, and scrub pōhuehue (*Muehlenbeckia complexa*) is planted as replacement. Enhancement using habitat piles (wood debris) in the release site is described in Section 6.4.3.2. Revegetation and habitat enhancements will be undertaken in 2026-7 to ensure the release is suitable to support lizard populations well in advance of potential lizard habitat clearance.

TIL proposes to install standard stock-proof fencing to keep stock out of the release site. Fencing will be checked by TIL staff annually or following severe weather events (i.e. rainfall greater than 50 mm within 6 hours or 100 mm within 24 hours or sustained wind speed of 90 km/h or more), or any other event that may have caused damage to the fence.

The release site is easily accessible for monitoring and pest control. It is unlikely there is a resident lizard population within the release site, although a survey will be undertaken prior to any salvage. This survey will also inform the extent of lizard habitat enhancement required. Due to the long duration of the mining operation, and the staged nature of the vegetation stripping, it is not possible to refine when potential lizard habitats will be cleared, nor when the release site will be required.

⁸ Principle 6 of the 9 Principles of lizard salvage: Receiving sites and their carrying capacity must be suitable in the long term.

⁹ Section 5.0 of Natural Inland Wetland Management Plan (SLR, 2025c).

The release site has been selected based on its ability to accommodate lizards within habitats similar to those from which they were captured. Further considerations included Principle 6 of the Lizard Salvage Guidelines (DOC 2019).

Table 4: Assessment of lizard release site based on Principle 6 of the Lizard Salvage Guidelines (DOC 2019).

Principle relating to salvage and release	Description	Detail/Activity
1. The site must be ecologically appropriate and have long-term security	Resident lizard communities must be understood	Skinks are unlikely to be present within the release site, but a survey will be conducted prior to any lizard salvage. The timing constraints for this are discussed in Section 6.4.3.1.
	The release site must be an appropriate distance from the impact site	The release site is in a protected buffer area between the Central and Southern Blocks of the Project Site.
	The location must be within the species natural geographic range.	The site is within the natural range of the species.
2. The habitat at the site must be suitable for the salvaged species	Vegetation composition and size:	Vegetation within the release site comprises a mix of native and exotic species broadly suitable for copper skinks. Control of gorse and tree lupin is required with replacement planting of scrub pōhuatehue.
	Habitat enhancement	Wood disk piles or log piles will be installed within the release site in clearings to provide additional stable refugia.
	Edge effects	Lizards will be released into an interior area of the release site to maximise the vegetation and predator control buffer, thus minimising edge effects.
3. The site must provide protection from predators	Habitat must protect from predators, or effective pest control must be in place. Must include full suite of predators including trapping for mice	Predator control will be undertaken to suppress rats, mice, ferrets, stoats, hedgehogs and possums. Details are provided in Section 6.4.5 and SLR (2025c).
4. The site must be protected from future disturbance	Land tenure must ensure long term protection from disturbance	The release site is within the Project Site and is within a 30 m riparian buffer excluded from future mining activity. Feral animals will be excluded from the release site with fencing.

Approximate
lizard release
site area
mid-Wainui
stream
margin



Approximate
lizard release
site area
upper-Wainui
stream
margin



Figure 2: Vegetation within the proposed lizard release site located in the background of these images.

6.4.3.2 Habitat enhancements at lizard release site

Woody material recovered from onsite works, such as wood disks from felled pine and pine slash logs will be used to create additional refugia. Wood habitat features will be placed in clearings in 2 x 2 x 1 m piles (approx.). Wood habitat features will be tightly packed to deter predators.

6.4.3.3 Predator control at release site

Pest animal control measures across the Central and Southern Blocks (including at the lizard release site) are described in Section 7.0 of the Natural Inland Wetland Management Plan (SLR, 2025c). Pest control for the lizard release site is summarised in Table 5.

Table 5: Pest control methods at the lizard release. Summarised from SLR (2025c).

Species	Control method	Detail
Rats (<i>Rattus rattus</i> , <i>R. norvegicus</i>),	Toxin control - brodifacoum	Bait stations on a 50 x 50 m grid. Toxin pulsed initially.
Mice (<i>Mus musculus</i>)	Toxin control - brodifacoum	Bait stations on a 25 x 25 m grid. Toxin pulsed initially.
Hedgehogs (<i>Erinaceus europaeus</i>)	Trap control – DOC 200 or BT200	Double set tunnels spaced 100 m apart. Traps to be baited with fresh rabbit meat, eggs or dried rabbit meat (Erayz).
Ferrets (<i>Mustela furo</i>), Stoats (<i>M. erminea</i>), Weasels (<i>M. nivalis</i>)	Trap control – DOC 250, although DOC200 for ferrets	Double set tunnels spaced 100 m apart. Traps to be baited with fresh rabbit meat, eggs or dried rabbit meat (Erayz).
Possums (<i>Trichosurus vulpecula</i>)	Trap control – self resetting traps, or manual kill traps	Traps spaced 150-200 m apart, 1 m off the ground affixed to a tree or post. Traps to be baited with commercial lures, or fruit.

Pest animal monitoring is not proposed due to constant reinvasion making it unlikely to show a clear response to control (SLR 2025c). A record of maintenance and bait / toxin top-ups is to be kept to assess bait take as an indirect measure of predator activity.

6.4.4 Contingency actions ¹⁰

Lizards can inhabit unlikely locations and sometimes be found in surprising abundance. Therefore,

¹⁰ Principle 9 of the 9 Principles of Lizard Salvage: Contingency actions are required when lizard salvage and transfer activities fail.

Table 6 identifies potential issues that could arise and contingency actions to address them.

Table 6: Proposed contingency actions.

Situation	Description	Contingency Action(s)
Higher number of lizards captured than expected	During the salvage, a higher number of lizards are being captured than expected or numbers of lizards in traps are not decreasing.	If the number of lizards captured by the 10 th trapping day isn't declining, destructive searches and mechanical habitat removal is proposed to remove any remaining habitat onsite so lizards are unlikely to disperse back into the site.
Threatened or unexpected lizard species encountered	Threatened lizard species not previously considered or anticipated to occur onsite are found.	If encountered, the release site must be assessed to see if the unexpected species is suitable for release. The Project Herpetologist will contact DOC to inform them of the find and discuss an alternative release site if required. Survey methods will be reviewed and intensified to ensure they are likely to capture any other lizards of that species.

6.4.5 Incidental discovery protocol

The following incidental discovery protocol (IDP) has been described for the scenario in which a lizard is discovered during works, following implementation of the lizard salvage.

If a lizard is discovered:

- All activities in a 10 m radius around where the lizard was observed must cease immediately and searches for any other lizards must be carried out. If the lizard came from a habitat feature (e.g. log pile, pampas tussock) this should be fenced off with lizard-proof silt fencing and avoided until it can be thoroughly searched by the Project Herpetologist .
- The Project Herpetologist must be notified within 2 hours of the sighting.
- If the lizard is sighted, provide details such as:
 - Colouration and patterning.
 - Shape and size (e.g. robust or slender, approximate length).
 - Location it was found in.
- If a deceased lizard is found, it should be photographed, and the Project Herpetologist must be contacted. The Project Herpetologist will then consult with DOC on how to proceed.
- If an injured lizard is found, the Project Herpetologist must be contacted immediately for advice on how to proceed. A veterinarian may need to be contact for advice. DOC will also be notified of the finding.

6.4.6 Adaptive Management

Minor flexibility or adaptations to the current methods proposed in this LMP may be made at the discretion of the Project Herpetologist. This will enable the appropriate management of lizard populations that are encountered during the lizard salvage within the site, habitat quality and type of species encountered.

6.5 Compensation

If lizards are present, the mitigation described above (i.e., lizard salvage) is not considered sufficient to provide an overall protective benefit to the lizard population because imperfect salvage methods and complex habitats are likely to result in a net loss of lizards from the site.

TIL proposes monetary compensation to a local environmental group to support wildlife (including lizards) in the local area through pest control, weed management, or habitat enhancement. TIL proposes that the monetary amount reflects the number of lizards that are salvaged from the affected site. The following amounts are proposed:

- No lizards salvaged = no monetary compensation required
- ≤ 20 individual Not Threatened or At Risk species = \$10,000.00
- 21 – 50 individual Not Threatened or At Risk species = \$15,000.00
- ≥ 50 individual Not Threatened or At Risk species = \$20,000.00
- Any Threatened lizard captured = \$1,000.00 per lizard.

TIL proposes to consult with mana whenua, DOC and other stakeholders to determine an appropriate recipient group for the compensation. The group will be confirmed prior to the first lizard salvage, with compensation payable as salvages are completed. Compensation payments are cumulative (i.e., a maximum of \$20,000 is payable unless a threatened lizard is captured).

We consider that this is an appropriate approach because salvage, habitat creation and predator control components of this proposal have minimal benefit at a local population level if there is no dispersal between the release site and habitats outside of the Project Site. Compensation provides an opportunity to benefits lizards in the local area.

7.0 Post release monitoring ¹¹ and reporting ¹²

7.1 Reporting

Lizard salvage outcomes and the results of habitat inspections (described in Section 5.3) will be reported by the Project Herpetologist to DOC (per requirements of the Wildlife Approval). Reports will be provided by 30 June of the year the activity took place. Reports will include how

¹¹ Principle 7 of the 9 Principles of Lizard Salvage: Monitoring is required to evaluate the salvage operation.

¹² Principle 7 of the 9 Principles of Lizard Salvage: Reporting is required to communicate outcomes of salvage operations and encourage process improvements.

the Lizard Management Plan was implemented including any difficulties encountered with capture and handling, and what contingency actions were required. This report will also include:

- Species and number of animals released;
- Detailed maps of the capture and release location; and
- A description of the habitat quality and extent, survey effort and lizard survey results.

ARDS cards will be submitted to DOC by the Project Herpetologist within 1 month following the end of the salvage.

7.2 Post-release monitoring

Post-release monitoring will be triggered if more than 20 lizards of an 'At Risk' species are salvaged and released within the release area.

Monitoring will include annual repeat surveys using methods described in Section 6.4.2.2, including live traps, artificial retreats and visual searches (but will not include destructive searches). Monitoring will have the objective of assessing population persistence and breeding (i.e. gravid females, or juveniles present in the population) for up to 3 years following release.

8.0 Wildlife Act offences (s7, cl 2(1)(l) of the FTAA)

The Substantive Application Report confirms at that there is no criminal history or involvement in any pending criminal proceedings of the applicant, company director, trustee, partner and anyone else involved with the application, in respect of offences under the Wildlife Act.

9.0 Consultation (s7, cl 2(1)(n) of the FTAA)

TIL has undertaken consultation with mana whenua and the Department of Conservation for this Application, and specifically regarding management of lizards at the Project Site. Details are provided in the substantive application.

10.0 Additional supporting documentation (s7, cl 2(1)(o) of the FTAA)

This assessment was informed by the documents referenced throughout and listed in the references (Section 11).

11.0 References

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- SLR, 2025b: Taharoa Ironsands Central and Southern Block Mining Project: Ecological Assessment – Fauna
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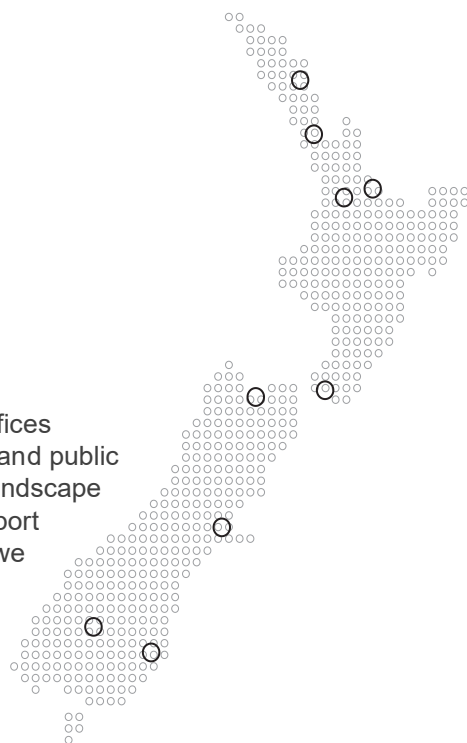
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Appendix 1: Wildlife Approval checklist

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