MATAKANUI

GOLD LIMITED

Habitat Impact Management Plan

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Glossary

Specific terms	
AMP	Avifauna Management Plan
ARP	Applied Research Plan
BOGP	Bendigo-Ophir Gold Project ('the Project')
DDF	Direct disturbance footprint
ESCP	Erosion and Sediment Control Plan
GPS	Global Positioning System
HIMP	Habitat Impact Management Plan
LERMP	Landscape and Ecological Rehabilitation Management Plan
LMP	Lizard Management Plan
MRZ	Mine Regeneration Zone
SEQE	Suitably Experienced and Qualified Ecologist(s)
TIMP	Terrestrial Invertebrate Management Plan
General terms	
Biodiversity	The variety of life on Earth at all its levels, from genes to ecosystems, and can encompass the evolutionary, ecological, and cultural processes that sustain life
Ecology	The study of the relationships between living organisms, including humans, and their physical environment.
Habitat clearance	Earthworks and/or vegetation clearance
Site description	
Ardgour Sanctuary	An area of Ardgour Station, north-northwest of the DDF, in which 38 ha of pest exclusion fencing is proposed
Ardgour Rise	A realignment of part of Thomson Gorge Road, via Ardgour Station (Ardgour Rise), planned to provide public access through to the Manuherikia Valley
Bendigo Sanctuary	An area of Bendigo Station, west of the DDF (and north of Bendigo Historic Reserve), in which 29 ha of pest exclusion fencing is proposed
Matakanui Sanctuary	Collectively the Ardgour and Bendigo Sanctuaries, comprising approximately 67 ha of pest-exclusion fenced areas.

1. INTRODUCTION

1.1. Plan objective, purpose and scope

The objective of the Habitat Impact Management Plan (**HIMP**) is to avoid or minimise adverse effects on ecological values during the construction and operation of the Bendigo-Ophir Gold Project (**BOGP**) and the purpose of this HIMP is to ensure effective co-ordination of effects management measures by overviewing the full suite of ecological effects avoidance and minimisation methods to be employed as detailed in the relevant plans, including:

- The Avifauna Management Plan (**AMP**)
- The Lizard Management Plan (**LMP**)
- The Terrestrial Invertebrate Management Plan (**TIMP**)
- The Landscape and Ecology Rehabilitation Plan (**LERMP**) (in relation to salvaging and relocation operations for the purpose of minimising effects)

This HIMP is intended to serve as the primary 'one-stop shop' for the management of effects on vegetation and habitats associated with the Project. It draws together, and cross-references, the measures applied across the full effects management hierarchy (avoidance, minimisation, remediation, offset and compensation) so that the way in which effects on vegetation and habitats are managed can be understood from this single document.

Consistent with this purpose, detail of vegetation and habitat rehabilitation, offset and compensation is not duplicated in this HIMP but is provided in the related management plans, namely the Landscape and Ecological Rehabilitation Management Plan (LERMP), the Mammalian Pest Control Management Plan (MPMP), the Ardgour Restoration Area Management Plan (ARAMP), the Matakanui Sanctuary Management Plan (MSMP) and the Biodiversity Outcome Monitoring Plan (BOMP). For each effect, this HIMP identifies the avoidance and minimisation measures delivered directly through this plan and cross-references the plan(s) in which remediation, offset and compensation measures are detailed.

Table 1 below provides a summary of habitat impact management measures and the primary management plans relevant to each.

[Placeholder: Additional conditions relating to the application of mātauranga Māori and exercise of kaitiakitanga.]

Table 1: Summary of habitat effects management measures and management plans relevant to each.

Habitat impact management measures	Primary management plan (s)
Pre-impact habitat and biodiversity surveys for vegetation/habitat features, threatened plants, avifauna nests, lizards and terrestrial invertebrates	**HIMP**, AMP, LMP, TIMP, LERMP
Onsite construction method refinements to further avoid or minimise effects where possible	**HIMP**, AMP, LMP, TIMP
Physical delineation of disturbance area and habitat/biodiversity features for salvaging	**HIMP,** AMP, LMP, TIMP
Salvaging of plants and habitat features and certain biodiversity values (e.g. seeds or seedlings of threatened plants or cuttings of invertebrate host plants)	**HIMP**, LERMP, TIMP
Avifauna nest surveys (all native species, including eastern falcon and pipit)	AMP
Salvaging of lizards (identified locations)	LMP
Salvaging of terrestrial invertebrates (select locations, select species)	TIMP
Confirmation that all pre-habitat clearance measures to avoid or minimise effects on ecology have been completed	**HIMP**, AMP, LMP, TIMP LERMP
Ecological oversight of habitat clearance and clearance management measures	**HIMP**, AMP, LMP, TIMP LERMP
Construction-assisted salvaging of lizards (identified locations)	LMP
Salvaging and stockpiling of habitat features (vegetation, rocks, boulders, and coarse wood)	**HIMP**, LMP, LERMP

2. CONSENT CONDITIONS

MGL has proposed the following land use consent conditions as part of its application.

Condition No	Condition	Comment

C48	The consent holder must implement the Habitat Impact Management Plan ("HIMP") certified as part of the approval of the BOGP pursuant to Section 81 of the Fast-track Approvals Act 2024 (or as amended in accordance with relevant conditions), and which forms part of the consents. The objective of the HIMP is to describe measures to avoid or minimise adverse effects on wetland and terrestrial vegetation, including the salvaging of soils, species, vegetation or habitat, and ensure effective coordination of effects management by overviewing the suite of effects measures detailed in the following plans: • Avifauna Management Plan; • Lizard Management Plan; • Terrestrial Invertebrate Management Plan; and • Landscape and Ecological Rehabilitation Management Plan. To achieve this objective, the HIMP must include, as a minimum: a. Pre-habitat impact protocols, including delineation, procedures for vegetation and habitat protection and to minimise impacts on fauna; b. Habitat clearance protocols, including demarcation of habitat/vegetation to be cleared and retained, seasonal constraints, and supervision requirements; c. Salvage, storage/stockpiling and reuse of vegetation (i.e. vegetation transfer), soils, coarse wood, rocks, stones, and shingle throughout the BOGP Consent Area, in accordance with the Landscape and Ecology Rehabilitation Management Plan (LERMP) protocols;	

	d. The salvage of organic enriched wetland soils that are preferentially used for wetland rehabilitation; and e. Compliance monitoring and reporting requirements.	
C49	The HIMP required under Condition C48 [above] must include the following specific limits and standards which mining operations must comply with: a. No habitat clearance shall occur until all pre-clearance management measures have been undertaken or are in place as confirmed by a Suitably Experienced and Qualified Ecologist; b. Prior to any habitat clearance: i) The DDF must be demarcated (marked out on the ground) to ensure that habitat clearance activities only occur within the DDF as shown in Plan 3 in Attachment 1 in **Schedule One**; ii) Pre-clearance surveys, fauna and threatened plant management and fauna/plant salvaging must be undertaken in accordance with the Applied Research Plan for the Conservation, Management, Rehabilitation and Expansion of Cushionfield, Landscape and Ecological Rehabilitation Management Plan, Lizard Management Plan, Avifauna Management Plan, and Terrestrial Invertebrate Management Plan; iii) Pre-clearance surveys must also include identification, GPS logging and physical delineation of nationally or regionally Threatened, At-Risk or otherwise notable plants and habitats (i.e. rock outcrops) within the contingency zones, and efforts made to avoid adverse effects on these plants where practicable;	

	iv) Pre-clearance surveys of pest plant species to allow segregation of soils containing gorse (and sedum if present); and v) Suitable sediment and erosion controls to be installed. c. Habitat clearance must adhere to the specific timing restrictions for indigenous fauna (birds, lizards and invertebrates), specified in the management plans listed above in Condition C49(b)(ii). d. The extent of habitat clearance within the DDF (as identified in Plan 3 in Attachment 1 in **Schedule One**, after measures to avoid or minimise adverse effects, must not exceed the direct loss of up to 607 ha of terrestrial habitat and approximately 3.1 ha of wetland habitat that includes approximately: i) 79 ha of exotic pasture and herbfield; ii) 104 ha of mixed depleted herbfield (cushionfield) and grassland;[1] iii) 187 ha of mixed tussock shrubland and exotic grassland; iv) 124 ha of mixed scrubland; v) 25 ha of native dominant tussockland; vi) 2 ha of native taramea herbfield and shrubland; vii) 86 ha of native dominated scrubland; viii) 0.1 ha of seepage wetlands; ix) 0.5 ha of gully fen wetlands; and x) 2.4 ha of swamp/marsh wetlands. [1] The total area of disturbance of cushionfield is to be confirmed through detailed cushionfield monitoring.	

	Disturbance to the full area of cushionfield is subject to the implementation and success of the Applied Research Plan for the Conservation, Management, Rehabilitation and Expansion of Cushionfield (refer Condition C46). e. Any trees to be felled on the DDF boundary directionally felled to benefit the vegetation/habitat immediately adjacent to the DDF, unless deemed to be unsafe. This could be into DDF (if cushionfield or taramea) or into the contingency zone; and Following habitat clearance, the upper 20 to 30 cm of soil and attached tussock and/or scrub vegetation (not mulched) will be stripped together and placed on the surface of soil stockpiles). Underlying root zone will be stripped separately and stockpiled.	

3. ROLES AND RESPONSIBILITIES

Delivery of, and compliance with HIMP is the responsibility of the Environment Manager, who liaises with the Mine Manager, Suitably Experienced and Qualified Ecologist(s) (SEQE), Site Engineers, and habitat clearance and earthworks contractors as required. The Environment Manager holds overall accountability for implementation of and compliance with all ecology management plans, including this HIMP.

The responsibilities of the Environment Manager include, but are not limited to: reading and understanding the ecological management plans; facilitating a project start-up meeting with the SEQE, Mine Manager, Site Engineer(s) and contractors before clearance and earthworks commence; contacting the SEQE a minimum of four weeks before any area within the DDF is scheduled for clearance; maintaining clear communication regarding changes to the works schedule; briefing new personnel on their responsibilities under the plans; inviting mana whenua to participate in vegetation or habitat salvage and relocation so that kaitiakitanga responsibilities and cultural concerns are addressed; developing, implementing and monitoring site clearance procedures; and ensuring personnel inductions include a module on ecological effects management roles and responsibilities.

All personnel working on site are responsible for alerting the Environment Manager and the Mine Manager to the discovery of any potentially At Risk or Threatened fauna not otherwise identified in the ecological management plans.

4. OVERVIEW OF VALUES, EFFECTS AND EFFECTS MANAGEMENT

This section summarises the ecological values present, the potential effects of the Project on those values, and the measures by which those effects are avoided, minimised, remedied, offset or compensated. It draws on the Assessment of Ecological Effects Report (AEE) and the supporting technical reports (RMA Ecology, 2025), and applies to all habitat types and the plant and animal species they support. The protocols summarised here are detailed in the following sections of this HIMP and in the related management plans.

4.1. Ecological values

The Ecological Study Area (ESA) lies within the Dunstan Ecological District (ED) and supports a diverse and nationally important dryland ecosystem. The vegetation occurs as a mosaic of seven broad terrestrial types and three wetland types, ranging from low-value exotic pasture and herbfield to very high-value cushionfield and native-dominated scrubland. The direct disturbance footprint (DDF) involves the loss of up to 610 ha of terrestrial vegetation/habitat and approximately 3.1 ha of wetland. Table 2 summarises the vegetation/habitat types present in the DDF and their assessed ecological value.

Table 2: Vegetation and habitat types within the DDF and their assessed ecological value.

Vegetation / habitat type	Extent in DDF (ha)	Assessed ecological value
Exotic pasture and herbfield	79.3	Low
Mixed depleted herbfield (cushionfield) and grassland	103.8	Very high
Mixed tussock, shrubland and exotic grassland	187.4	Moderate
Mixed scrubland	124.1	Moderate
Native-dominant tussockland	25.3	High
Native taramea herbfield and shrubland	1.86	High
Native-dominated scrubland	85.6	Very high
Seepage wetlands	0.13	Moderate
Gully fen wetlands	0.47	Moderate
Swamp/marsh wetlands	2.42	High

Flora values. The ESA supports 58 nationally or regionally Threatened or At Risk plant species, at least 48 of which occur in the DDF. Cushionfields are the most botanically significant ecosystem, supporting a disproportionate number of these species (21 Threatened and At Risk species, including spring annual herbs). Two Nationally Threatened spring annuals occur in the DDF — Ceratocephala pungens (Threatened – Nationally Critical) and Myosotis brevis (Threatened – Nationally Vulnerable) — alongside the regionally and nationally rare tree daisy Olearia lineata in native-dominated scrubland and ten Threatened, At Risk or Data Deficient wetland plant species.

Fauna values. Avifauna: 28 native species are present or potentially present, including the Threatened (Nationally Vulnerable) eastern New Zealand falcon/kārearea, which nests on rock outcrops and bluffs in and around the DDF, and the At Risk (Declining) New Zealand pipit/pīhoihoi (an estimated 5–15 pairs in the DDF); several further Threatened or At Risk braided-river and wetland-associated birds may occasionally visit. Lizards: three native species occur — the tussock skink and Kawarau gecko (both regionally At Risk – Declining) and the non-threatened McCann's skink. Invertebrates: of 222 native species recorded, 18 are notable, including four Threatened moths (one Nationally Critical, one Nationally Endangered and two Nationally Vulnerable), nine At Risk species, and four species new to science. Bats: no resident long-tailed or lesser short-tailed bats were detected during 1,111 valid acoustic survey nights, and bats are not considered to be regularly present.

4.2. Potential effects on ecological values

The Project is expected to result in the loss of up to 607 ha of indigenous and exotic vegetation/habitat and approximately 3.1 ha of wetland. The actual and potential effects on ecological values are described in the AEE and, in summary, include:

- Permanent habitat loss through vegetation clearance, soil stripping, earthworks, and the deposition of overburden, waste rock or tailings;
- Direct loss of, or damage to, Threatened and At Risk plants and their habitat, including cushionfield, spring annuals and wetland species;
- Habitat edge effects, fragmentation and loss of connectivity, which may affect species movement and meta-population dynamics and increase vulnerability to local extinction;
- Harm or injury to nesting birds (including eggs and chicks), lizards and terrestrial invertebrates during habitat clearance;
- Hydrological change (drawdown) affecting wetlands, and effects on wetland and stream water quality through sedimentation or contamination;

- Ongoing disturbance from noise, vibration (including blasting, expected 4–5 times per week), dust and artificial light at night, with potential effects on birds, invertebrates and nocturnal or crepuscular species;
- Mortality or injury through road kills, blasting and collision (particularly for falcon).
- Facilitation or exacerbation of the spread of plant and animal pests, decreasing the resilience of adjacent ecosystems; and
- Associated effects on mana whenua values.

After avoidance and minimisation, the Project will result in significant residual adverse effects on some ecological values, as recognised in the AEE and agreed by the ecology experts. These residual effects are addressed through remediation, offset and compensation, as summarised below.

4.3. Proposed effects management

Effects on ecological values have been avoided or minimised to the extent practicable through:

- Refinement of the DDF and careful siting of infrastructure within the functional constraints of the identified gold deposits — for example, realigning Thomson Gorge Road (Ardgour Rise) away from habitat of the Threatened moth Sporophyla oenospora, avoiding most of the swamp/marsh in the Rise and Shine Creek valley floor, positioning spoil sites and infrastructure away from cushionfield and other high-value habitats, and refining footprints around kōwhai, taramea and rock outcrops;
- Delaying open-cast mining of the Come-In-Time (CIT) Open Pit to allow a cushionfield and spring annual research programme, with mining proceeding only where Threatened spring annual populations within the pit are less than 1% of the known Dunstan ED populations (other than a 2.7 ha early-disturbance area);
- Habitat impact protocols — pre-clearance surveys, construction-method refinement, physical delineation of the DDF, and sediment and erosion control — to minimise effects beyond the disturbance footprint (detailed in this HIMP);
- Pre-clearance surveys and salvage of Threatened plants, invertebrate host plants, lizards and habitat features, and nest surveys with breeding-season setbacks for native birds (as set out in the AMP, LMP, TIMP and LERMP);
- Measures to avoid or minimise indirect and/or effects associated with mine operations including:
  - Collisions
  - Ecotoxicity (mine-related water bodies)
  - Noise and vibration
  - Lighting

  - Vehicle movements
  - Dust
- Sediment and erosion control, and management of receiving-water quality and wetland hydrology to support native plant establishment and wetland values.

To address residual adverse effects that cannot be avoided or minimised, measures to remedy, offset and compensate for effects are set out in the related management plans, including:

- The Landscape and Ecological Rehabilitation Management Plan (LERMP);
- The Mammalian Pest Management Plan (MPMP);
- The Ardgour Restoration Area Management Plan (ARAMP); and
- The Matakanui Sanctuary Management Plan (MSMP).

These plans detail the location, type and magnitude of the remediation, offset and compensation measures proposed, including ecological rehabilitation of the DDF, plant and animal pest control, and the Ardgour and Bendigo (Matakanui) pest-exclusion sanctuaries.

The approach for monitoring the outcomes of effects management is set out in the Biodiversity Outcome Monitoring Plan (BOMP), and the targets, thresholds and contingencies for habitat-impact management are set out in the Targets, thresholds and contingencies section of this HIMP.

5. PROTOCOLS FOR EFFECTS AVOIDANCE AND MINIMISATION

5.1. Protocols to manage direct effects associated with habitat clearance activities

5.1.1. Pre-clearance surveys

Pre-clearance surveys to refine site-specific salvaging requirements will be undertaken as follows:

- Cushionfield and spring annual surveys as set out in the Applied Research Plan (**ARP**) for conservation management, rehabilitation and expansion of cushionfield (Landcare Research 2025).
- Identification of nationally or regionally Threatened, At Risk or otherwise notable plants on the edge of the footprint and efforts to avoid adverse effects on these plants where it is practicable to refine the footprint to do so. The location of those plants to be avoided will be recorded via a Global Positioning System (**GPS**) and physically delineated by flagging and barriers placed around them.

- Surveys to identify the specific threatened plant species for salvage, along with non-threatened plants that serve as hosts for invertebrates or provide high value habitat for lizards, as set out in the LERMP. The location of those plants to be salvaged will be recorded via GPS and physically delineated by flagging.
- Pre-clearance surveys for fauna species as detailed in the AMP, LMP and TIMP.

5.1.2. Construction methodology refinements

Where feasible the construction footprint will be refined to further avoid or minimise effects on habitats and associated species. Most notably this will include measures to reduce the footprint on the edge of the proposed footprint where particularly high local biodiversity values are present as detected during pre-surveys and impacts can be avoided through micro-siting adjustments.

5.1.3. Physical delineation

The direct disturbance footprint (**DDF**) will be physically delineated by a surveyor (in a manner deemed appropriate by the surveyor) in advance of upcoming habitat impacts to minimise potential for incidental vegetation/habitat loss outside the footprint. This physical delineation measure will need to be checked to make sure it is intact and functioning as intended at the time of habitat impacts.

Any incidental vegetation or habitat loss detected outside the delineated DDF, and any failure of the delineation, will be recorded (including the area and ecological value affected) and reported in the annual compliance report. Such events are a trigger for the contingency response in the Targets, thresholds and contingencies section and, where the loss is more than minor, the incident process in the Incident monitoring and reporting section.

Prior to habitat clearance, sediment and erosion control measures will be deployed to avoid or minimise effects on downstream wetlands (and streams) due to effects on water quality (Erosion and Sediment Control Management Plan (ESCMP), 2025)]. Procedures for minimising the area and duration of soil exposure from habitat clearance will be undertaken as set out in the ESCMP.

5.1.4. Pre-clearance salvage

- Salvaging and relocation of specific threatened plant species (including seeds/seedlings), and non-threatened plants that serve as hosts for invertebrates or provide high value habitat for lizards, will occur as set out in the LERMP.
- Salvage of non-threatened plant species as live transplants to inoculate wetlands and tussocklands as set out in the LERMP, with a minimum of:
    - 0.5 ha of wetland transplants relocated into rehabilitated wetland habitats in the DDF once the hydrology has been established

- 25,000 tussocks within available habitat within ecological rehabilitation and the mine regeneration zone (**MRZ**).

- Salvaging and stockpiling of topsoil, rock stacks, boulders, weathered rock, and coarse wood as set out in the LERMP and LMP for subsequent relocation into ecological rehabilitation sites within the DDF. Once locations are confirmed, stockpiles will be managed following LERMP protocols to control dust and erosion, prevent vehicle access, and ensure accurate location recording.

5.1.5. Fauna

Procedures to avoid or minimise impacts to fauna, including avifauna, lizards and terrestrial invertebrates prior to habitat clearance are detailed in the AMP, LMP and TIMP, respectively. The Wildlife Act Authority approvals allowing species-specific salvaging and relocation operations will apply.

5.2. Habitat clearance management

5.2.1. Ecological oversight during habitat clearance

Habitat clearance will require ecological oversight by a **SEQE** (suitably experienced and qualified ecologist(s)) in accordance with the requirements of the AMP, LMP, TIMP and LERMP to direct constructed-assisted salvage of vegetation/habitats.

5.2.2. Construction-assisted salvage of vegetation and habitat features

Salvaging of plants via habitat transfer and many habitat features (e.g. rocks) require the assistance of machinery and are therefore 'construction assisted'. Construction assisted salvage of plants and habitat features shall occur in accordance with the LERMP and LMP as follows:

- Salvage of non-threatened plant species as live transplants to inoculate wetlands and tussocklands as set out in the LERMP, with a minimum of:
  - 0.5 ha of wetland transplants relocated into rehabilitated wetland habitats in the DDF once the hydrology has been established
  - 25,000 tussocks within available habitat within ecological rehabilitation and the mine regeneration zone.
- Salvaging and stockpiling of topsoil, rock stacks, boulders, weathered rock, and coarse wood as set out in the LERMP and LMP for subsequent relocation into ecological rehabilitation sites within the DDF. Once locations are confirmed, stockpiles will be managed following LERMP protocols to control dust and erosion, prevent vehicle access, and ensure accurate location recording.
- Following habitat clearance, the upper 20 to 30 cm of soil and attached tussock and/or scrub vegetation (not mulched) will be stripped together and placed on the

surface of soil stockpiles). Underlying root zone will be stripped separately and stockpiled.

5.2.3. Extent of Habitat Clearance

The habitats to be cleared span a gradient of ecological value. As assessed in the AEE, the mixed depleted herbfield (cushionfield) and grassland and the native-dominated scrubland are of very high value — cushionfield occupies about 17% of the DDF and supports a disproportionate number of Threatened and At Risk plant species (21 species, including nationally Threatened spring annual herbs) — whereas exotic pasture and herbfield is of low value. Native-dominant tussockland, native taramea herbfield and shrubland, and swamp/marsh wetlands are of high value, and the mixed tussock/shrubland, mixed scrubland, and seepage and fen wetlands are of moderate value. The maxima below therefore represent the limit of permissible clearance, not an indication of equivalent ecological cost.

The extent of habitat clearance within the DDF after measures to avoid or minimise adverse effects, must not exceed the direct loss of up to 607 ha of terrestrial habitat and approximately 3.1 ha of wetland habitat that includes approximately:

i) 79 ha of exotic pasture and herbfield;

ii) 104 ha of mixed depleted herbfield (cushionfield) and grassland;1

iii) 187 ha of mixed tussock shrubland and exotic grassland;

iv) 124 ha of mixed scrubland;

v) 25 ha of native dominant tussockland;

vi) 2 ha of native taramea herbfield and shrubland;

vii) 86 ha of native dominated scrubland;

viii) 0.1 ha of seepage wetlands;

ix) 0.5 ha of gully fen wetlands; and

x) 2.5 ha of swamp/marsh wetlands.

The approximately 104 ha of mixed depleted herbfield (cushionfield) and grassland above includes the approximately 23 ha Come-In-Time (CIT) Open Pit. Other than a 2.7 ha early-disturbance area required for enabling works, the CIT Open Pit will be mined only where Threatened spring annual populations within the pit are demonstrated to be less than 1% of the known populations within the Dunstan Ecological District — through propagation and species recovery under the Applied Research Plan, or the discovery of

further populations. If that threshold is not met, the cushionfield clearance reduces to approximately 81 ha.

5.3. Protocols to manage indirect or operational effects

In addition to the avoidance and minimisation measures above, the following sets out how the operational and indirect effects on habitats and associated species identified in the AEcE are managed.

5.3.1. Avifauna Collision and Ecotoxicity (mine-related water bodies)

Refer to the AMP.

5.3.2. Noise and vibration

Blasting is expected approximately 4–5 times per week, generating peak noise levels of up to 114 dB L_{Zpeak} at 1 km and 90–100 dB L_{Zpeak} out to 4 km, and ground vibration of around 2 mm/s out to approximately 2.7 km. Fauna may be impacted by these activities however impacts are expected to be minor. Options for avoiding or minimising effects biodiversity values in relation to these activities are limited.

5.3.3. Light

Artificial light at night has the potential to affect fauna. Lighting effects are managed through measures recommended in the Light Management Plan, the Outdoor Lighting Report and the Lighting / Dark Sky conferencing outcomes, including

- adopting *Environmental Zone A1 – Dark* based on ambient light conditions for relatively uninhabited rural areas (including terrestrial, marine, aquatic and coastal areas) and roadways without streetlighting through rural areas.
- Use of low-output, warm-coloured (≤3,000 K) LED lighting for the majority of lighting (estimated 5% 4000K or over);
- Building downward oriented and screened lighting fixtures that limit horizontal and vertical light spill;
- directional and shielded fixtures for plant and infrastructure areas; and
- automated timing, dimming and motion-sensor controls to reduce unnecessary luminance.

This HIMP as well as the AMP, TIMP, LMP and AMP cross-references those measures and provides for monitoring of their implementation.

5.3.4. Vehicle movements

Vehicle and machinery movement on site and on upgraded roads presents a risk of disturbance and of road-kill, particularly for ground-using species such as pipit and for

falcon but also for lizards and invertebrates. Management measures include speed limits on site and on haul roads; driver inductions covering the possibility of birds on or beside roads; restricting night-time vehicle movements where practicable; and recording and reporting of any bird strike through the incident reporting process so that recurring risk locations can be identified and addressed.

5.3.5. Dust

Earthworks, haulage and blasting generate dust that can degrade vegetation and habitat condition. Dust is managed through the Air Quality Management Plan controls (for example watering of haul roads and exposed surfaces, and management of dust-generating activities in high-wind conditions. This HIMP cross-references those controls, which serve to limit habitat-degradation effects on habitats outside the disturbance footprint.

5.4. Ecological rehabilitation

As set out in the LERMP, ecological rehabilitation will be implemented across all available areas within the DDF (approximately 480 ha), excluding the majority of the two permanent pit lakes, the pit walls, permanent infrastructure (roads and water treatment facilities), and the Ardgour Terraces (subject to agricultural pasture rehabilitation). The rehabilitation programme will re-establish a mosaic of indigenous habitats that provide habitat for associated species:

5.5. Compensation

Proposed offset and compensation measures include ecological restoration and habitat enhancement across 2,219 ha within the ESA surrounding the DDF footprint, driving a large-scale transition from exotic- to native-dominated ecosystems. The programme comprises:

- The 889 ha Mine Regeneration Zone (MRZ) adjacent to the DDF, enhanced through native enrichment planting, livestock management, mammalian pest control and weed control, improving habitat quality for birds.
- The 1,263 ha Ardgour Restoration Area (ARA), where ecological uplift via native planting, livestock management, pest and weed control, and habitat enhancement within selected Land Management Units (LMUs) will benefit habitats and associated species across currently grazed land.
- Approximately 67 ha of predator-exclusion fenced sanctuaries (38 ha Ardgour and 29 ha Bendigo), offering the greatest biodiversity gains through predator-proof fencing and the subsequent eradication of mammalian predators.

Implementation will be guided by the LERMP, ARAMP, MSMP and MSMP and accompanied by clear, enforceable and measurable conditions of approval.

6. TARGETS, THRESHOLDS AND CONTINGENCIES

This section consolidates the targets, thresholds and contingencies for habitat-impact management — that is, for the avoidance, minimisation and salvage measures coordinated by this HIMP. Targets, thresholds and contingencies for ecological rehabilitation, restoration, offset and biodiversity outcomes are set in the LERMP, ARAMP, MSMP and Biodiversity Outcome Monitoring Plan (BOMP). The targets below are a starting point and will be finalised in, and remain subordinate to, the consent conditions. Where any threshold is reached or exceeded, the corresponding contingency action applies and the matter is reported through the annual compliance report and, where relevant, the incident process.

Table 2. Habitat-impact targets, thresholds and contingencies.

Habitat-impact measure	Target	Trigger / threshold	Contingency action
Footprint delineation and avoidance of incidental loss	No vegetation or habitat clearance or disturbance outside the delineated DDF.	Any clearance, disturbance or delineation failure detected outside the delineated DDF.	Stop work in the affected area; SEQE assessment; reinstate delineation; record the area and ecological value lost; report as an incident; remediate and, where the loss is more than minor, determine additional offset or compensation.
Extent of habitat clearance (total, by vegetation type, and wetland)	Clearance does not exceed the maximum extents stated in this Plan (approximately 610 ha terrestrial, the per-type maxima, and approximately 3.1 ha wetland).	Cumulative clearance reaches 95% of any stated maximum (total, vegetation type or wetland).	SEQE notified at the trigger; clearance of the relevant type halted at the cap; any exceedance reported as an incident; SEQE assesses the additional residual

			effect and any additional effects management required.
Completion of pre-clearance surveys and salvage	All required pre-clearance surveys (vegetation and threatened plants, avifauna nests, lizards, invertebrates) and salvage completed and signed off by the SEQE before clearance in each area.	Clearance proposed in an area without completed, SEQE-signed-off surveys and salvage.	Clearance not authorised until completed; non-compliance recorded and reported.
Salvage of wetland transplants	Minimum 0.5 ha of wetland transplants relocated into rehabilitated wetland habitat once hydrology is established.	Salvageable wetland material available but less than 0.5 ha relocated, or suitable hydrology not established at the receiving site.	SEQE review; increase salvage from other DDF wetlands; hold transplants in a managed holding area until hydrology is established; record the shortfall and make-up in the annual report.
Salvage of tussocks	Minimum 25,000 tussocks salvaged and established within ecological rehabilitation and the MRZ.	Fewer than 25,000 tussocks salvaged, or survival at the first SEQE check below the level specified in the LERMP.	Additional salvage from subsequent clearance stages; supplementary eco-sourced propagation per the LERMP; record and report.
Salvage of threatened plants and habitat features (rock, boulders, weathered rock, coarse wood,	All identified threatened-plant locations and habitat features within the clearance area salvaged per the LERMP and LMP; topsoil and root-zone	Identified material cleared without salvage, or salvaged topsoil/root-zone volumes below the LERMP Appendix D requirement.	SEQE review; recover from stockpiles or subsequent clearance stages; track topsoil and root-zone volumes as a critical

topsoil and root zone)	volumes sufficient to deliver the root-zone areas in LERMP Appendix D.		operational metric; report the shortfall and make-up.
Wetland hydrology	A suitable hydrological regime established and confirmed (detailed hydrological design / Water Management Plan) to sustain relocated wetland transplants.	Hydrological design not finalised before wetland relocation, or a relocated wetland not sustained by suitable hydrology.	Defer relocation until hydrology is established; hold salvaged material; apply adaptive management per the Water Management Plan and LERMP.
Stockpile integrity	Salvaged topsoil, vegetation and habitat features stockpiled and maintained per the LERMP (dust and erosion control, no vehicle access, location recorded).	Stockpile degradation or loss, or location not recorded.	Remedial management; relocate or protect the material; update records and report.

These targets and thresholds are interim and will be refined through the consent conditions and subsequent management-plan workshops. Maintaining the ecological values that salvaged material contributes to also depends on plant and animal pest control continuing in perpetuity; the mechanisms for long-term protection and funding beyond the 35-year mine life are addressedthe relevant consent conditions.

7. ANNUAL COMPLIANCE REPORT

The annual habitat clearance compliance report shall be submitted as part of an integrated annual compliance report each November (for the period 1 July to 30 June) until habitat clearance is complete, and will include:

- Overview maps illustrating:
  - The location of habitat impacts undertaken during the year (and years prior) and location of planned habitat impacts for the following year.
- Information on the species and number of threatened plants salvaged and relocated as required by the LERMP
  - Areas of stockpiled vegetation, rocks and boulders, and coarse wood, for deployment to rehabilitation or offset/compensation sites once ready.

- Post-habitat clearance annual compliance reports for birds, lizard and invertebrate surveys and avoidance or minimisation measures undertaken.
- Recommendations for improvements to effects avoidance and minimisation protocols (where required).

8. INCIDENT MONITORING AND REPORTING

The Regulator/Grantor will be notified as soon as practicable, but no more than five working days, after an unscheduled event associated with habitat clearance. Such events include notable compliance failure that results in adverse ecological effects, or an event that causes vegetation damage on a scale that requires an urgent remedy according to the SEQE to return to compliance with any section of the BOGP ecological management plans and planting programmes. Exceedance of a habitat-clearance threshold, including clearance exceeding the maximum permissible extent, or incidental loss outside the delineated DDF, is to be treated as such an unscheduled event and triggers the relevant contingency action in the Targets, thresholds and contingencies section.

A subsequent investigation report will be provided to the Regulator/Grantor within 30 working days and include the following information:

- The causes of the incident, the emergency response measures (if applicable), and the response proposed to avoid a recurrence of the issue;
- An assessment undertaken by a SEQE which details any adverse effects of the exceedance; and
- Proposed measures to address effects.

All incidents will be tracked to resolution through the BOGP compliance management system.

9. CHANGE MANAGEMENT

Changes within this HIMP shall be recorded in Table 2.

Table 3 HIMP Change Management Record

Item	Section	Summary of change	Reason for change	Complexity of change	Date
1.				☐ Minor ☐ Moderate ☐ Major	
2.				☐ Minor ☐ Moderate ☐ Major	
3.				☐ Minor	

				☐ Moderate ☐ Major	
4.				☐ Minor ☐ Moderate ☐ Major	