Appendix 4

4b. Fauna Management Plan
(covering Malleefowl and Chuditch)
Covalent Lithium Earl Grey Lithium Project

FAUNA MANAGEMENT PLAN
Endorsement:

Colyn Louw, GM Organisational Development,
on behalf of
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Signed:

Date: 18/01/2019

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Executive Summary

This Environmental Management Plan (EMP) is submitted to support environmental referrals under the Environmental Protection Act 1986 (EP Act) and Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) for the Earl Grey Lithium Project which will be developed by Covalent Lithium Pty Ltd (Covalent), a joint venture between Kidman Resources Limited and SQM (Sociedad Química y Minera de Chile S.A.). The following table presents the purpose of the EMP in the context of Western Australia Environmental Protection Authority (EPA) objectives and the Commonwealth Department of Environment and Energy (DoEE) guidelines.

Table ES1: Summary and Purpose of the Environmental Management Plan

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal title</td>
<td>Earl Grey Lithium Project.</td>
</tr>
<tr>
<td>Proponents name</td>
<td>Covalent Lithium Pty Ltd (Covalent).</td>
</tr>
<tr>
<td>Short description of Proposal</td>
<td>This Proposal is for the development of an open cut lithium mine within the abandoned Mt Holland Mine Site, located approximately 105 km south–southeast of Southern Cross, Western Australia. The Proposal will have a total footprint of 660 ha of which 392 ha would be new clearing and 268 ha already disturbed. The life of mine is 40 years.</td>
</tr>
<tr>
<td>Purpose of the Environmental Management Plan</td>
<td>This Fauna Management Plan (FMP) is intended to support environmental impact assessment under the Environmental Protection Act 1986 and the Environment Protection and Biodiversity Conservation Act 1999. The purpose of this Environmental Management Plan is to provide a framework to ensure that impacts to Chuditch (Dasyurus geoffroii), and Malleefowl (Leipoa ocellata) found to be attributable to the Earl Grey Lithium Project are avoided to the maximum extent practicable and impacts do not compromise the EPA objectives for terrestrial fauna. The FMP has been developed to address the Significant Impact Guidelines 1.1 – Matters of National Environmental Significance.</td>
</tr>
</tbody>
</table>

Key environmental factors
- Terrestrial Fauna.

EPA Objective
- To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.

Key Management Targets
- Avoid clearing of vegetation within 100 m of active Malleefowl mounds.
- Total vegetation clearing not to exceed 392 ha within Development Envelope.
- Avoid removal of any active Malleefowl mounds.
- Minimise mortality of Malleefowl or Chuditch from clearing activity, entrapment, vehicle strike or mining related fire.
- Minimise decline in population health due to predation from feral fauna.
- Minimise decline in population health due to dust, noise, light, vibration and displacement.
- Minimise decline in fauna habitat condition due to dust or change fire regime.

This EMP is designed to be adaptive and will be updated over the life of the Project. As monitoring programs are undertaken, quantifiable environmental criteria will be further defined. The Proponent will update this EMP in consultation with relevant government departments, as such, this EMP remains a working document.
1. **Context, Scope, and Rationale**

The proposed Earl Grey Lithium Project (the Proposal) is located approximately 105 km south–southeast of Southern Cross, Western Australia in the Shire of Yilgarn (Figure 1-1). A large, economic pegmatite–hosted lithium deposit was discovered by Kidman Resources Limited in 2016. The deposit is situated at the previously abandoned Mt Holland Mine Site, which was operated between 1988 and 2001, and comprises open pits, an underground mine, a processing plant, waste rock dumps, tailings storage facilities (TSF) and associated infrastructure. The Mt Holland Mine is largely unrehabilitated and currently a liability of the State of Western Australia.

This Fauna Management Plan (FMP) is intended to support referrals under the *Environmental Protection Act 1986* (EP Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The purpose of this Management Plan is to provide a framework to ensure that impacts on Chuditch (*Dasyurus geoffroii*), and Malleefowl (*Leipoa ocellata*) found to be attributable to the Earl Grey Lithium Project are avoided to the maximum extent practicable and impacts do not compromise the EPA objectives for terrestrial fauna.

1.1 **Proposal**

The Proposal will comprise open cut mining and processing of lithium ore, with transport of a lithium concentrate to an existing Western Australian port for export to overseas markets or a future potential lithium refinery in Kwinana. Within the Development Envelope (1984 ha) the total Proposal footprint is 660 ha with the full extent of the Proposal to be developed progressively over a 40 year period. The location of the Development Envelope and indicative Proposal footprint is shown in Figure 1–2.

The Proposal has been designed to maximise the use of existing disturbance areas. The Proposal requires clearing of 392 ha of native vegetation and will use 268 ha of the existing disturbed area. The additional clearing is predominately required for the mine pit, waste landforms and ancillary infrastructure.

1.2 **Key Environmental Factors**

The Proposal was referred under s 38 of the EP Act on 19 May 2017. The Environmental Protection Authority (EPA) determined the Proposal requires a Public Environmental Review (PER) level of assessment on 14 July 2017. The EPA approved an Environmental Scoping Document (ESD) on 14 December 2017 identifying the preliminary key environmental factors, impacts to be assessed and work required to prepare the Environmental Review Document (ERD).

The ESD identified the following two key preliminary environmental factors:
1. Flora and Vegetation.
2. Terrestrial Fauna.

The Proposal was also referred under the Commonwealth Government *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and received a ‘Controlled Action’ decision (2017/7950), which was authorised to be assessed under the WA bilateral assessment process. The EPBC Act requires an assessment as to whether a proposed action is likely to have a significant effect on a matter of national environmental significance (MNES).

The relevant MNES for this Proposal are:
- Chuditch (*Dasyurus geoffroii*) – Vulnerable
- Malleefowl (*Leipoa ocellata*) – Vulnerable

Ironcaps Banksia (*Banksia sphaerocarpa* var. *dolichostyla*) is discussed in the Flora Management Plan.
Figure 1-1: Regional location

Legend
- Development Envelope
- Nature reserve

Scale: 1:900,000 at A4
Coordinate System: GDA 1994 MGA Zone 50
Note that positional errors may occur in some areas
Date: 20/07/2018
Author: vdinh
Figure 1-2: Development Envelope and indicative Proposal footprint

Legend
- --- Holland track
- Development Envelope
- Indicative Proposal footprint

Scale: 1:40,000
Date: 20/07/2018
Author: vdinh
Source: SQM: Aerial imagery - 2017,

Coordinate System: GDA 1994 MGA Zone 50
Note that positional errors may occur in some areas.
1.3 Condition Requirements

The objectives of this FMP are to ensure that Malleefowl and Chuditch found within the Project are protected and managed in accordance with the requirements of the Biodiversity Conservation Act 2016 (BC Act) and to the satisfaction of the Department of Biodiversity, Conservation and Attractions (DBCA). The Proposal is currently being assessed by the EPA (Assessment 2123) under a bilateral assessment for DoEE (EPBC Act). As such, the FMP will need to manage impacts to MNES to the satisfaction of DoEE. A Ministerial Statement, associated Proposal Implementation conditions and approval under the EPBC Act are yet to be issued.

This FMP addresses the requirements of the EPA Scoping document item 9 and details:
- management and monitoring of Malleefowl and Chuditch
- monitoring and control of feral animals; and
- adaptive management actions to be implemented in response to environmental criteria (triggers and thresholds) or management targets being reached.

1.4 Rationale and Approach

The Proposal has been designed to avoid impacts to key environmental factors located within the footprint; including the location of Malleefowl mounds in relation to key mining infrastructure. Results of baseline surveys and assumptions and uncertainties inform the management approach as summarised further in section 1.4.3.

1.4.1 Survey and study findings

Western Wildlife was commissioned to complete a detailed fauna and habitat assessment of the Development Envelope. The surveys were undertaken between October 2016 and November 2017, as outlined in Table 1-1, have been used to support the assessment of potential impacts of the Proposal on terrestrial fauna.

The surveys were completed in accordance with the standards set out in Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA 2010), Environmental Factor Guideline: Terrestrial Fauna (EPA 2016c), Survey guidelines for Australia’s threatened mammals (Commonwealth Department of the Sustainability, Environment, Water, Population and Communities 2011) and Survey guidelines for Australia’s threatened birds (Commonwealth Department of the Environment, Water, Heritage and the Arts 2010). The size and shape of the fauna survey areas evolved as the proposed mine footprint was developed and the Development Envelope finalised. The original survey undertaken in October 2016 focused on the area of the orebody, and further surveys were commissioned in 2016 and 2017 to cover the remainder of the Development Envelope and to investigate Chuditch distribution and the full context of fauna habitats within the Development Envelope and surrounding areas. In addition, Chuditch and Malleefowl surveys were conducted across a wider Regional Survey Area, comprising over 70,000 ha. A summary of the survey methods and findings are summarised in Table 1-1 and discussed in further detail below.
Table 1-1: Terrestrial fauna and habitat surveys

<table>
<thead>
<tr>
<th>Date</th>
<th>Survey Type and Extent</th>
<th>Survey Details</th>
</tr>
</thead>
</table>
| 10–15 Oct 2016 | Reconnaissance survey with targeted searches for Malleefowl and Chuditch in the Earl Grey study area | • literature review and database searches.  
• opportunistic records taken.  
• habitats recorded and mapped.  
• **Chuditch**: 12 baited camera traps established for 5 nights totaling 60 trap nights within the Development Envelope.  
• **Malleefowl**: 269 km of transects completed by 4 personnel at 10 m spacing within the Development Envelope. |
| 21 Nov–4 Dec 2016 | Detailed survey (trapping and targeted searches), encompassing four study areas, including Early Grey and Irish Breakfast which occur within the Development Envelope. Prince of Wales and Van Uden study areas fall outside the Development Envelope, however provide further regional context to the fauna and habitat assessment | • trapping–12 sites established comprising:  
• 10 pitfall traps, 10 baited funnel traps, 10 baited Elliott traps and 2 baited cage traps for 8 nights.  
• each site had 80 pitfall trap–nights, 80 funnel trap–nights, 80 Elliott trap–nights and 16 cage trap–nights.  
• the survey had 960 trap–nights for pitfalls, funnels and Elliott traps, and 192 trap–nights for cages.  
• **birds**: 7 x 20–minute surveys undertaken at each trapping site.  
• **bats**: SM2 ultrasonic bat detectors deployed for 1 night at each trapping site and the camp.  
• **spotlighting**: 2 nights, 6 people in 3 teams using road–spotting and head–torching.  
• opportunistic records taken.  
• habitats recorded and mapped.  
• **Chuditch**: 45 baited camera traps for 4 or 5 trap nights totaling 189 trap nights covering both the Development Envelope and the Regional Survey Area.  
• **Malleefowl**: 306 km of transects completed by six personnel at 10 m spacing. 97 km of transects within Development Envelope and 209 km of transects in Regional Survey Area. |
| 15 Jan–25 Feb 2017 | Regional Chuditch survey                                                                 | • **Chuditch**: 44 baited camera traps deployed for 13 to 24 nights resulting in 794 trap nights covering both the Development Envelope and the Regional Survey Area.  
• vegetation and habitat descriptions taken at camera trap locations.  
• **Malleefowl**: Opportunistic only. |
| 12-21 Sept 2017  | Opportunistic Malleefowl survey (in Development Envelope excluding previously surveyed areas in Oct 2016 and Dec 2016) and Chuditch (within Regional Survey Area) survey | • **Chuditch**: 20 baited camera traps deployed resulting in 350 trap nights covering the Regional Survey Area.  
• **Malleefowl**: Opportunistic only. |
| 2–14 Oct 2017    | Level 2 (single season) fauna survey with targeted Malleefowl survey                     | • **Malleefowl**: 801 km of transects completed by two to six personnel at 10 m spacing, 780 km of transects within Development Envelope and 21 km of transects in Regional Survey Area.  
• **Chuditch**: 15 baited camera traps deployed for five nights resulting in 75 trap nights in the Development Envelope. |
| 25–30 Nov 2017   | Targeted Chuditch (cage trapping) survey                                               | • **Chuditch**: Cage trapping in the Regional Survey Area timed to avoid the breeding season. Two transects of 50 cage traps were established, one to the north and one to the south of the Development Envelope. |

**Malleefowl**

Malleefowl were historically common across southern Australia, however, since European settlement populations have reduced and become fragmented. The Malleefowl is found in semi-arid to arid shrublands and low woodlands, especially those dominated by mallee and/or acacias and are likely to occur throughout the woodlands and shrublands of the region. Malleefowl have been found to range over one to many square kilometres. Western Wildlife (2017) identified numerous records of Malleefowl within 90 km of the Development Envelope through DBCA database searches.
Malleefowl were sighted and active mounds recorded in the fauna surveys. The fauna survey for Malleefowl included 269 km of intensively searched transects at 10 m spacing. In 2016 the search effort was focused on the location of potential deposits; Earl Grey, Irish Breakfast and Prince of Wales mine sites. In 2017, the survey effort covered the Development Envelope to fully characterise habitat utilisation. The inventories of mounds within these areas is near complete, but some mounds may remain unrecorded.

One active and three recently active mounds were recorded in the Development Envelope; with another three recently active mounds recorded outside of the Development Envelope within the Regional Survey Area. Over the course of two years, 12 birds were sighted (or observed on camera traps) in the Development Envelope and six outside of the Development Envelope.

Malleefowl in the study areas are likely to range over all habitats, favoring patches of shrubland on gravelly sands for mound construction. Although birds may forage in recently burnt habitats, unburnt areas are required for mound construction. Habitat loss, habitat fragmentation and feral predators are recognised as current threats. Large-scale fires are also likely to impact this species, resulting in loss of leaf-litter to build their mounds.

**Chuditch**

The Chuditch is currently restricted to the south-west of Western Australia, with the majority occurring in the Jarrah forest with some wheatbelt/goldfields populations in drier woodlands, heath and mallee shrublands. Until recently, there were only occasional records of the Chuditch from the wheatbelt and goldfields, with this population estimated at 2,000 mature individuals. However, Western Wildlife (2017) identified numerous records of Chuditch within 90 km of the Development Envelope through DBCA database searches. The recent records were predominately in Forrestania mostly in association with the Cosmic Boy Mine approximately 55 km to the south of the Development Envelope (Western Wildlife 2017).

Overall, Chuditch were recorded on 24 of the 42 camera traps set in the Development Envelope and 29 of the 94 camera traps in the Regional Survey Area. Due to the Chuditch’s high mobility, the camera traps may be recording individuals at numerous camera traps, however this still indicates that the Chuditch are distributed across a large area.

Over the course of two survey years, 28 individual Chuditch were trapped (13 adults and 15 dispersing young), of which 23 were trapped within the Development Envelope. Chuditch were also recorded on 41% of camera traps averaged over the two survey years, showing a preference for unburnt habitats. Factors that may have positively influenced Chuditch numbers in the survey include low numbers of feral predators and the presence of long–unburnt habitats within the Development Envelope to provide shelter and denning sites relative to the surrounding area. Individuals are likely to have a core home range of 1,500 ha (males) or 300 – 400 ha (females), though they are highly mobile and likely to range even more widely and the core home–ranges are likely to overlap (Serena and Soderquist 1989).

Chuditch are likely to occur in all habitats in the study areas, and may use hollow logs, burrows and old White–browed Babbler nests as den sites, as well as man–made structures such as rocky bund walls.

In 2016 surveys, 18 individual Chuditch were trapped (ten adults and eight dispersing young) and Chuditch were recorded on 44 of the 101 camera trap locations showing a preference for unburnt habitats. In 2017 surveys, 10 individual Chuditch were trapped (three adults and seven dispersing young) and Chuditch were recorded on 52 of the 136 camera trap locations. Chuditch have a short life cycle, with males breeding within two years and dying, which results in Chuditch population being subject to substantial changes in population numbers over a short time. While the surveys only covered two years the substantial changes in population numbers can be seen. As the vegetation that was previously burnt to the east, north and south of the Development recovers the Chuditch population is expected to return to these areas.

Current threats are habitat loss, habitat fragmentation and feral predators. Large-scale fires also impact this species through loss of den sites and prey.
1.4.2 Key assumptions and uncertainties

A number of assumptions and uncertainties based on surveys undertaken to date form the basis of the proposed management approach, as listed below.

Assumptions

- It is assumed that by utilising areas of existing disturbance and minimising clearing and implementing progressive rehabilitation throughout the life of the project, the impacts of the Project to conservation significant species will be minimised.
- Surveys to date provide sufficient information to confirm the presence of significant species and suggest a healthy population exists within the Project area and surrounding region.
- The Project area and greater regional area have been adequately surveyed for terrestrial fauna, with surveys undertaken in both 2016 and 2017 comprising a detailed fauna survey, and targeted regional surveys.
- Both Malleefowl and Chuditch are highly mobile and have been recorded in all habitats, making it difficult to exclude any areas from being potential habitat.

Uncertainties

- Chuditch may utilise many shelters within a core range, so the location of shelters and breeding sites within the project area are unknown. The extent to which Chuditch may utilise the existing disturbed area for den sites is unknown.
- Potential habitat for Malleefowl breeding mounds may be present throughout the Development Envelope.
- The level of fauna survey varied between different areas; the regional area survey was less intensive than inside the Development Envelope. The regional survey results confirm the presence outside the Development Envelope but may not adequately quantify the regional population.
- The extent to which climatic factors outside of Covalent’s control will impact on the health and extent of populations of Significant Fauna, including Malleefowl and Chuditch.

1.4.3 Management Approach

Management measures to minimise the intensity of the effect are necessary to ensure the Proposal will not have a significant detrimental impact on key environmental factors. Specific application of mitigation hierarchy for the Proposal is as follows.

Impacts

The potential impacts of relevance include:

- Direct impact through further loss and fragmentation of habitat from vegetation clearing.
- Indirect impact from death, injury and displacement from construction and mining operations, vehicle strikes and changed fire regimes.
- Indirect impact from increased feral fauna presence as a result of increased access into areas from new tracks and roads, and attraction to rubbish tips.
- Indirect impact from dust, light, noise, vibration and displacement during construction and mining operations.
- Indirect impact to fauna habitat condition from dust or changed fire regime.
Focus on Avoidance

As described above, faunal surveys of the site have been used in the design of proposed facilities to ensure that direct impacts on Malleefowl individuals and active mounds, and Chuditch have been avoided. Based on the current design and available survey information, the proposal will not result in any direct loss of active Malleefowl mounds. Environmental criteria and response actions are outlined in Section 2.1 will assist in avoiding direct impacts to the maximum extent practicable.

Minimising impact

While active Malleefowl mounds are anticipated to be avoided under the proposal, both Malleefowl and Chuditch utilise habitat across the entire site. Both species could be susceptible to mortality from vehicle strikes and indirect impacts including fauna habitat degradation through changed fire regimes and dust, displacement through light, noise and vibration. Applicable management actions and targets to minimise incidental mortality and indirect impacts are proposed in Section 2.2.

Remediation actions where impacts cannot be avoided

In the unexpected event that direct impacts to active Malleefowl mounds are required, management actions will be implemented to relocate adults and young, including rehabilitation of individuals if necessary at the Yongergnow Malleefowl Centre or another equivalent facility approved by the Department of Biodiversity, Conservation and Attractions (DBCA) formerly Department of Parks and Wildlife.

If incident reports or annual monitoring indicate that incidental mortality from vehicle strikes is an issue of significance, the Proponent will consult with DBCA with respect to adaptive management measures and controls that could be implemented to reduce impact to fauna. In addition, other regional actions that would benefit affected species on a regional scale will be considered and may include supporting research programs into Malleefowl and Chuditch populations, feral animal controls programs or habitat conservation.

1.4.4 Rationale for choice of provisions

The mitigation hierarchy is based on the objective of avoiding direct impacts and minimise indirect impacts to conservation significant species and their habitat. It is anticipated given the positioning of facilities within existing disturbed areas and progressive clearing timeline to develop the mine that avoidance is achievable.

The management approach is informed by results of baseline surveys and the Project as detailed in the Environmental Review Document. The Project will have a relatively small footprint within the bioregion with greater than 98% of vegetation remaining both within and outside of conservation areas. Development of the mine will occur over 40 years and will utilise up to 40% of existing disturbance. Progressive rehabilitation will be undertaken during the life of mine including rehabilitation of existing State liabilities.

Periodic review of the management approach will be undertaken based on monitoring results and incident data. Adaptive management measures will be implemented with a view to achieving continuous improvement in minimising impacts to conservation significant species.

This Fauna Management Plan includes both outcome-based and management-based provisions. Outcome-based provisions have been established where the level of impact is known and quantifiable, in this case specifically associated with clearing and impacts to active Malleefowl mounds. Movement of Malleefowl and Chuditch across the region and within habitats outside of the Development Envelope and the short life span of Chuditch individuals is likely to result in natural variation of the number of individuals and populations within and surrounding the Development Envelope. In addition, potential impacts from incidental mortality and indirect impacts to populations are unable to be accurately quantified. Consequently, a quantifiable population target is not considered appropriate and management-based provisions have been established to minimise individual mortality from indirect project impacts. As incidental mortality and population monitoring is undertaken, quantifiable outcome-based provisions may be able to be established.
2. **Management plan provisions**

The key objectives of the management plan are to:

- define measures to manage potential impacts from project activities
- design management actions that are implementable and easily understood by site personnel
- develop mechanisms that enable adaptive management and continuous improvement throughout the life of the project
- facilitate evidence based review and auditing to demonstrate compliance.

Management provisions have been established for the following potential impacts (as summarised in Section 1.4.3):

- direct impact through further loss and fragmentation of habitat from vegetation clearing
- indirect impact from death, injury and displacement from construction and mining operations, vehicle strikes and changed fire regimes
- indirect impact from increased feral fauna presence as a result of increased access into areas from new tracks and roads, and attraction to rubbish tips
- indirect impact from dust, light, noise and vibration during construction and mining operations.

As environmental impacts incorporate both quantifiable and non-quantifiable impacts, outcomes-based and management-based provisions have been included in this FMP.

Outcome-based provisions are performance-based and may be used where the part of the environment is capable of objective measurement and reporting. Therefore, outcome-based provisions have been established to specify triggers and thresholds on direct impacts and to ensure the Proposal achieves acceptable environmental outcomes.

Management-based provisions relate to management actions and may be used where the part of the environment is not capable of objective measurement and reporting. Therefore, management-based provisions have been established to specify management actions and targets, particularly for indirect impacts that are non-quantifiable. As monitoring is undertaken and additional population data is gathered, the management targets are expected to be reviewed and quantifiable outcome-based provisions established. Early response triggers for management-based provisions are detailed in Section 3.1.

### 2.1 Outcome-based provisions

The primary objective of terrestrial fauna management is to avoid direct and indirect impacts to Malleefowl and Chuditch individuals and habitat to the maximum extent practicable. The following thresholds will be implemented:

- managing vegetation clearing so that it does not exceed 392 ha within the Development Envelope
- avoiding clearing and disturbance to vegetation within 100 m of active Malleefowl mounds
- avoiding removal or disturbance to active Malleefowl mounds
- minimising fragmentation and indirect impacts to Malleefowl and Chuditch habitat.

Environmental criteria, including both triggers and thresholds, based on the primary objectives for terrestrial fauna management, are detailed in Table 2-2.

### 2.1.1 Environmental Criteria justification

The environmental criteria’s triggers and thresholds have been established on the direct impacts discussed in the Environmental Review Document (Revision 6). Justification for the environmental criteria is detailed in Table 2-1.
<table>
<thead>
<tr>
<th>Environmental Objective</th>
<th>Environmental Criteria</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimise loss and fragmentation of habitat from vegetation clearing</td>
<td>Trigger Criteria:  - Avoid clearing or disturbance of vegetation within 120 m of active Malleefowl mounds</td>
<td>A 20 m trigger before reaching the 100 m threshold for disturbance around active Malleefowl mounds has been based on:  - 20% buffer on potential impacts from clearing is considered adequate given clearing controls (GPS, survey pegs, internal audits).</td>
</tr>
<tr>
<td></td>
<td>Threshold Criteria:  - Avoid clearing or disturbance of vegetation within 100 m of active Malleefowl mounds</td>
<td>The 100 m buffer for active Malleefowl mounds is considered industry standard associated with maintaining adequate surrounding vegetation and habitat and minimising indirect impacts (noise, dust and vibrations). The buffer distance is based on similar approved Malleefowl Management Plans and Ministerial Statements within similar vegetation associations.</td>
</tr>
<tr>
<td></td>
<td>Trigger Criteria:  - Unauthorised clearing</td>
<td>In the event of any unauthorised clearing, this constitutes a trigger and the response actions are required. This trigger assumes that 392 ha of vegetation clearing will occur for the Proposal. The risk of non-compliance is associated with clearing beyond approved limits. Therefore, any unauthorised clearing would require a review of compliance to approvals.</td>
</tr>
<tr>
<td></td>
<td>Threshold Criteria:  - Total vegetation clearing not to exceed 392 ha within Development Envelope</td>
<td>The 392 ha of vegetation clearing threshold is based on the impact assessed in the Environmental Review Document for the Proposal.</td>
</tr>
<tr>
<td>Minimise death, injury and displacement from construction and mining operations, vehicle strikes and changed fire regimes</td>
<td>Trigger Criteria:  - Identification of an active Malleefowl mound within proposed layout</td>
<td>Identification of an active Malleefowl mound within the Proposed Layout has been established as a trigger. As a result of annual monitoring and preclearance surveys, if an active Malleefowl mound is identified in the Proposed Layout, the response actions in addition to the Management Actions discussed in Table 2-3 will prevent removal of active Malleefowl mounds.</td>
</tr>
<tr>
<td></td>
<td>Threshold Criteria:  - Avoid removal of any active Malleefowl mounds</td>
<td>The avoidance of any active Malleefowl mounds threshold is based on the impact assessed in the Environmental Review Document for the Proposal and the associated Management Actions discussed in Table 2-3.</td>
</tr>
</tbody>
</table>
Table 2-2: Terrestrial fauna (Malleefowl and Chuditch) outcome-based provisions

<table>
<thead>
<tr>
<th>Environmental Objective</th>
<th>Environmental Criteria</th>
<th>Response actions</th>
<th>Monitoring</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimise loss and fragmentation of habitat from vegetation clearing</strong></td>
<td>Trigger Criteria:  • Avoid clearing or disturbance of vegetation within 120 m of active Malleefowl mounds</td>
<td>• Cease clearing or activity if exclusion zone is breached  • Undertake an incident investigation to determine source of disturbance (mining, fire, climatic)  • If disturbance is attributed to Proposal activities, undertake a review of layout to determine if impact can be minimised.</td>
<td>• Annual monitoring of Malleefowl activity using motion sensor camera monitoring  • Internal audit and monitoring of areas of clearing  • Monitoring of incident reports for overclearing, light and noise disturbance and fire.</td>
<td>• Annual reporting  • Weekly reporting when Fauna specialist is on site  • Clearing Register  • Internal clearing permits  • Survey data  • Incident reports.</td>
</tr>
<tr>
<td></td>
<td>Threshold Criteria:  • Avoid clearing or disturbance of vegetation within 100 m of active Malleefowl mounds</td>
<td>• Report as a non-compliance to DWER within 7 days of identification  • Suitable qualified fauna specialist to undertake an assessment of impact  • Investigation report submitted to DWER and remediation actions proposed.</td>
<td>• Internal audit and monitoring of areas of clearing  • Monitoring of incident reports for overclearing.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trigger Criteria:  • Unauthorised clearing</td>
<td>• Cease clearing  • Undertake an incident investigation and inform relevant regulatory authority if necessary (DMIRS)  • Obtain necessary approvals to amend total approved disturbance footprint.</td>
<td>• Internal audit and monitoring of areas of clearing  • Monitoring of incident reports for overclearing.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Threshold Criteria:  • Total vegetation clearing not to exceed 392 ha within Development Envelope</td>
<td>• Inform relevant regulatory authority (DMIRS and DWER) of non-compliance  • Undertake an incident investigation  • Investigation report submitted and remediation actions proposed.</td>
<td>• Internal audit and monitoring of areas of clearing  • Monitoring of incident reports for overclearing.</td>
<td></td>
</tr>
<tr>
<td><strong>Minimise death, injury and displacement from construction and mining operations, vehicle strikes and changed fire regimes</strong></td>
<td>Trigger Criteria:  • Identification of an active Malleefowl mound within proposed layout</td>
<td>• Review of proposed layout to determine if area can be amended to avoid active mound  • Reassessment of mine clearing plan to postpone clearing until mound is inactive.</td>
<td>• Pre-clearance monitoring  • Annual monitoring of Malleefowl activity using motion sensor camera monitoring  • Internal audit and monitoring of areas of clearing  • Monitoring of incident reports for overclearing, light and noise disturbance and fire.</td>
<td>• Annual reporting  • Weekly reporting when Fauna specialist is on site  • Clearing Register  • Internal clearing permits  • Survey data  • Incident reports.</td>
</tr>
<tr>
<td></td>
<td>Threshold Criteria:  • Avoid removal of any active Malleefowl mounds</td>
<td>• Assessment by suitably qualified fauna specialist to determine if relocation of eggs is viable or mound can be re-installed  • If eggs are present, consult with and seek approval of DBCA and DoEE, for eggs to be removed and incubated in a place approved by DBCA (e.g. Perth Zoo, Yongergnow Malleefowl Centre) with hatched chicks to be released on site unless otherwise approved by DBCA  • Reported as an incident to DBCA, DWER and DMIRS and an incident investigation undertaken  • Incident investigation report provided to relevant regulatory authorities with remediation actions proposed.</td>
<td>• Pre-clearance monitoring  • Annual monitoring of Malleefowl activity using motion sensor camera monitoring  • Internal audit and monitoring of areas of clearing  • Monitoring of incident reports for overclearing, light and noise disturbance and fire.</td>
<td></td>
</tr>
</tbody>
</table>
2.2 Management-based provisions

The following management actions will assist in meeting the trigger and thresholds proposed in the outcome-based provisions. These actions will be reviewed as part of the monitoring and reporting process and changes made where required.

The management actions are detailed in Table 2-3, are summarised as:

- clearing management
- Malleefowl mound management
- Chuditch habitat and relocation management
- traffic management
- fauna entrapment management
- feral species management
- fire management
- light, noise and vibration management
- dust management.

The management targets are:

- minimise incidental mortality of Malleefowl or Chuditch from clearing activity, entrapment, vehicle strike or mining related fire
- minimise decline in population health due to predation from feral fauna
- minimise decline in population health due to dust, noise, artificial light, vibration and displacement
- minimise decline in fauna habitat condition due to dust or changed fire regimes.

Early response triggers have been established for management targets and are detailed in Section 3.1.
Table 2-3: Terrestrial fauna (Malleefowl and Chuditch) management-based provisions

<table>
<thead>
<tr>
<th>Environmental objectives</th>
<th>Management Actions</th>
<th>Management targets</th>
<th>Monitoring</th>
<th>Reporting</th>
</tr>
</thead>
</table>
| Minimise death, injury and displacement from construction and changing fire regimes | Clearing management controls:  
  • Implementation of an internal clearing permit procedure, including onsite demarcation and notification procedures  
  • Fauna specialist present during clearing to ensure timely identification, avoidance, and relocation, if necessary. The fauna specialist will identify any Malleefowl mounds and potential Chuditch dens and undertake relocation activities. The person will hold a permit to handle and move significant fauna under the Biodiversity Conservation Act 2016, and have access to a care facility that can be used to rehabilitate injured fauna  
  • Undertake progressive clearing, minimising the amount of active disturbance present  
    • Progressively rehabilitate areas as appropriate. | • Minimise incidental mortality of Malleefowl or Chuditch from clearing activity, entrapment, vehicle strike or mining related fires. | • Annual monitoring of Malleefowl and Chuditch activity using motion sensor camera monitoring and cage trapping, respectively  
  • Internal audit of potential entrapment areas, speeding and night driving  
  • Monitoring of incident reports for Malleefowl and Chuditch predation, vehicle strike, speeding and night driving, over clearing, light and noise disturbance and fire. | • Annual reporting  
  • Internal audit reporting for areas of clearing, areas of potential entrapment, speeding and night driving  
  • Incident reports  
  • Weekly reporting when Fauna specialist is on site. |

Malleefowl management controls:  
All Malleefowl sightings, active and inactive mounds will be recorded including date, observer, status of mound, Malleefowl and a GPS location description.  
Pre-clearance surveys will occur to identify any Malleefowl mounds to record the presence/absence of Malleefowl and active/recently active mounds in the area to be cleared.  
If avoidance is possible, a 100 m buffer will be applied to active/recently active mounds to be flagged in the field as no-go zones. The 100 m buffer for active Malleefowl mounds is considered industry standard associated with maintaining adequate surrounding vegetation and habitat and minimising indirect impacts (noise, dust and vibrations). The buffer distance is based on similar approved Malleefowl Management Plans and Ministerial Statements within similar vegetation associations.  
Clearing in close proximity to active Malleefowl mounds will be preferentially undertaken outside the mound building, breeding, and egg incubation period (i.e. between April and June) to the maximum extent practicable.  
If it is essential that a Malleefowl mound is cleared between July and March, then pre-clearance surveys will be completed prior to all clearing to record the presence/absence of Malleefowl and active/recently active mounds in the area to be cleared.  
A suitably qualified fauna specialist will be present during clearing activities to identify any mounds. The person will hold a permit to handle and move significant fauna under the Biodiversity Conservation Act 2016, and have access to a care facility that can be used to rehabilitate injured fauna.

Chuditch controls:  
Fauna specialists will be present for clearing activities to identify any potential dens and undertake relocation activities. The person will hold a permit to handle and move significant fauna under the Biodiversity Conservation Act 2016, and have access to a care facility that can be used to rehabilitate injured fauna.  
Clearing will preferably occur between January to April, outside of the breeding season and when the species is more mobile and likely to establish in new surroundings. In particular for female Chuditch as it minimises the risk to dependent young or placement in established territories and associated competition and stress on individuals.  
Captured Chuditch should be released into adjacent bushland near the Development Envelope before nightfall or within the same day into another local location recommended by DBCA. If absolutely necessary or specifically requested by DBCA, Chuditch could be incorporated into a DBCA captive breeding program in lieu of relocation.

Traffic management controls:  
Avoid accidental disturbance to fauna and habitat by enforcing strict traffic management rules (e.g. keeping to designated tracks, limited driving between dusk and dawn, driving to road and weather conditions, reduced speed limits, Malleefowl and Chuditch signage)  
All sightings and interactions with Malleefowl and Chuditch to be reported to the Environmental Department  
Environmental personnel to identify and establish working relationships with local wildlife carers/vets for injured Malleefowl and Chuditch  
Worker awareness training.

Fauna entrapment controls:  
During construction, all construction pipes, culverts, or similar structures stored on-site overnight, will be inspected thoroughly for wildlife by a qualified fauna specialist or properly trained on-site personnel before the pipe is buried, capped, used, or moved.  
If the inspection indicates presence of conservation significant species inside stored materials or equipment, work on those materials will cease until a qualified biologist determines the appropriate course of action.  
To prevent entrapment of animals, all excavations, steep-walled holes or trenches more than one meter deep will be secured against animal entry at the close of each day, where possible. Any of the following measures may be employed, depending on the size of the hole and method feasibility:  
  • construction holes and trenches will be securely covered (no gaps) with plywood or similar materials at the close of each working day, or any time the opening will be left unattended for more than one hour  
  • in the absence of covers, the excavation will be provided with escape ramps constructed of earth or untreated wood, sloped no steeper than 2:1, and located no further than 100 m apart  
  • in situations where escape ramps are infeasible, the hole or trench will be surrounded by filter fabric fencing or a similar barrier with the bottom edge buried to prevent entry as appropriate, determined in consultation with a fauna specialist, or  
  • if a trench with a greater distance than 100 m is required to be left open for more than one day, trench inspections shall be undertaken to identify any entrapped fauna and relocation completed. The requirement and specifics (frequency and timing) for trench inspections will be determined by a fauna specialist, however inspections after sunrise, before sunset and prior to backfilling are required  
  • Domestic waste facilities will be fenced and putrescible waste receptacles will be covered  
  • Containers to have doors closed securely when not in use  
  • Permanent water sources (tanks, ponds and dams) to be fenced and / or have fauna egress mats installed.

Monitoring of incident reports for Malleefowl and Chuditch activity using motion sensor camera monitoring and cage trapping, respectively  
Internal audit of potential entrapment areas, speeding and night driving  
Monitoring of incident reports for Malleefowl and Chuditch predation, vehicle strike, speeding and night driving, over clearing, light and noise disturbance and fire.

Reporting  
• Annual reporting  
• Internal audit reporting for areas of clearing, areas of potential entrapment, speeding and night driving  
• Incident reports  
• Weekly reporting when Fauna specialist is on site.
<table>
<thead>
<tr>
<th>Environmental objectives</th>
<th>Management Actions</th>
<th>Management targets</th>
<th>Monitoring</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimise feral fauna access into Development Envelope from new tracks and roads, and attraction to rubbish tips</td>
<td>Feral species control management:  • Feral species identified will be reported to the Environmental Department and recorded to monitor occurrences  • Avoid attraction of feral species to the Development Envelope by implementing domestic waste management procedures (e.g. fencing of landfills, regularly covering putrescible waste, secure lids on bins)  • Feral species control will be undertaken on site in cooperation with regional control programs  • Induct personnel on waste management and feral species control measures.</td>
<td>• Minimise decline in population health due to predation from feral fauna.</td>
<td>• Feral fauna population monitoring  • Malleefowl and Chuditch population monitoring.</td>
<td>• Annual reporting  • Feral species control reports  • Incident reports</td>
</tr>
<tr>
<td>Minimise impact from dust, noise, light and vibration during construction and mining operations</td>
<td>Dust management:  • Dust suppression measures that include good house–keeping practices for vehicles, cleared areas, and active stockpiles  • Dust suppression measures such as the use of watercarts will be used during dry and windy conditions, as required.  • Noise, light and vibration management:  • Project travel between dusk and dawn will be limited to essential mining operations  • Machinery and equipment will be fitted with noise attenuation measures as appropriate  • Installation of lighting that minimises light intensity and spill and direct lights toward plant areas to minimise light spill into adjacent vegetated areas  • Equipment design will specify compliance with Australian Standard noise limits.</td>
<td>• Minimise decline in population health due to dust, light, noise, vibration and displacement.</td>
<td>• Internal audit and monitoring of areas of clearing  • Monitoring of incident reports for overclearing, light and noise disturbance and fire  • Malleefowl and Chuditch population monitoring.</td>
<td>• Annual reporting  • Quarterly and annual vegetation monitoring  • Incident reports of speeding  • Visual dust monitoring  • Incident report of significant dust plumes</td>
</tr>
<tr>
<td>Fire management:  • Implementation of fire management procedures (e.g. maintenance of fire breaks, Hot Work Permit system, firefighting training, Emergency Response Plan)  • Firefighting equipment will be located on site and in vehicles  • Lightning protection equipment will be installed as part of Project design where necessary  • Vehicles will not be permitted to leave access tracks or cleared areas  • Coordination with DBCA and Department of Fire and Emergency Services (DFES) to undertake prescribed burns. Dust management:  • Dust suppression measures that include good house–keeping practices for vehicles, cleared areas, and active stockpiles  • Dust suppression measures such as the use of watercarts will be used during dry and windy conditions, as required.</td>
<td>• Minimise decline in fauna habitat condition due to dust or changed fire regimes.</td>
<td>• Annual vegetation health population monitoring.</td>
<td></td>
<td>• Annual reporting  • Quarterly and annual vegetation monitoring  • Visual dust monitoring  • Incident reports of significant dust plumes</td>
</tr>
</tbody>
</table>
2.3 Implementation

The implementation of the FMP will be assisted through an Environmental Management System that will incorporate systems, processes, procedures and work instructions relating to the management, monitoring and reporting components of the FMP.

Covalent is committed to conducting its activities at the Earl Grey Lithium Project (the Project) in an ecologically responsible manner. The key personnel involved in implementation of the FMP and their roles and responsibilities are listed in Table 2.4.

Table 2.4: Summary of roles and responsibilities relevant to the Earl Grey Lithium Project FMP.

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covalent</td>
<td>• Covalent have the overall responsibility for the implementation of this FMP</td>
</tr>
<tr>
<td></td>
<td>• if any roles are delegated to a contractor or consultant, Covalent has the responsibility to audit compliance and ensure any contingency actions are implemented.</td>
</tr>
<tr>
<td>Covalent Environmental Manager</td>
<td>• overall accountability for auditing and compliance assessment with this FMP during operation to ensure it is maintained and meets objectives and targets</td>
</tr>
<tr>
<td></td>
<td>• provide technical support to all Project personnel to ensure this FMP is implemented correctly and complied with</td>
</tr>
<tr>
<td></td>
<td>• implement and maintain this FMP, review its effectiveness and review the implementation as required</td>
</tr>
<tr>
<td></td>
<td>• obtain relevant approvals for disturbance as required</td>
</tr>
<tr>
<td></td>
<td>• ensure all personnel involved in the project are inducted and will adhere to FMP requirements</td>
</tr>
<tr>
<td></td>
<td>• undertaking ongoing monitoring and documenting monitoring results</td>
</tr>
<tr>
<td></td>
<td>• liaise with stakeholders and technical advisors for advice and resolution of management aspects/objectives as required</td>
</tr>
<tr>
<td></td>
<td>• review and close out any contingency actions</td>
</tr>
<tr>
<td></td>
<td>• report as required to regulating authorities</td>
</tr>
<tr>
<td></td>
<td>• may delegate all or part responsibility to an appropriately qualified person</td>
</tr>
<tr>
<td></td>
<td>• must be on-site during clearing operations.</td>
</tr>
<tr>
<td>Construction Manager (if different to Environmental manager)</td>
<td>• overall accountability for auditing and compliance assessment with this FMP during construction to ensure it is maintained and meets objectives and targets</td>
</tr>
<tr>
<td></td>
<td>• overall accountability to ensure this FMP is implemented, reported and maintained on-site</td>
</tr>
<tr>
<td></td>
<td>• ensure personnel attend inductions, have sufficient resources and training to meet the requirements of this FMP</td>
</tr>
<tr>
<td></td>
<td>• support the proponent’s flora management initiative and culture</td>
</tr>
<tr>
<td></td>
<td>• comply with all legal requirements and the requirements of this FMP</td>
</tr>
<tr>
<td></td>
<td>• seek advice from proponent when in doubt about requirements</td>
</tr>
<tr>
<td></td>
<td>• appoint appropriate consultants to undertake specific activities set out in the FMP if required.</td>
</tr>
<tr>
<td>All personnel</td>
<td>• must receive induction prior to commencement of work on site</td>
</tr>
<tr>
<td></td>
<td>• comply with all legal requirements and the requirements of this FMP</td>
</tr>
<tr>
<td></td>
<td>• attend environmental inductions and any other training required</td>
</tr>
<tr>
<td></td>
<td>• participate in toolbox meetings and encourage personnel to suggest improvements.</td>
</tr>
</tbody>
</table>

2.3.1 Environmental induction

The Proponent will require all workers, both during construction and operation of the mine, to attend a worker awareness training/environmental induction covering the following topics.

- Malleefowl and Chuditch (e.g. how to identify it, conservation status, the importance of minimising impacts on the species, requirements of personnel including adherence to speed limits and staying on roads as well as locations and incidents, reporting to Environment Department)
- information on other potential significant fauna
- information on feral species and the impact on Malleefowl and Chuditch (no feeding of feral species and all sightings of feral species to be reported)
- information on the prevention and management of fires.
2.3.2 Incidents and corrective actions

Environmental incidents are defined as breaches or non-adherences to objectives and procedures applied to the Project and prescribed in this FMP. Environmental incidents are to be reported to the Covalent Environmental Manager by the person responsible for the incident or the first person at the site of an incident.

The Covalent Environmental Manager will assess the type and severity of the incident in accordance with internal procedures. Relevant personnel shall be notified and consulted whether the incident requires notification to regulatory agencies.

2.4 Monitoring

The following monitoring will be undertaken in conjunction with Fauna Management Actions:

Table 5: Monitoring action summary

<table>
<thead>
<tr>
<th>Monitoring Event</th>
<th>Monitoring Action</th>
<th>Frequency</th>
<th>Responsibility</th>
</tr>
</thead>
</table>
| Population monitoring   | • Monitoring of Malleefowl and Chuditch populations using best practice techniques. Monitoring programs will be developed to determine if any population impacts are caused by Proposal activities.  
  • Malleefowl monitoring may consist of:  
    • monitoring mounds to record the number of Malleefowl mounds, identify any decline in active mounds (as determined by the National Malleefowl Monitoring Manual - Standards, Protocols and Monitoring Procedures and in consultation with DBCA), and determine the cause. If decline in mound activity is Proposal related, mitigative actions will be investigated and discussed with DBCA and any other identified party of interest.  
    • Lidar survey utilising the algorithm developed by the National Malleefowl Recovery Team to identify mounds within the Development Envelope to ensure that all Malleefowl mounds are identified.  
  • Chuditch monitoring may consist of cage trapping to determine population changes within the Development Envelope. | Annual                       | Covalent Environmental Manager |
| Mortality monitoring    | • Monitoring of incident reports for Malleefowl and Chuditch predation, vehicle strike, speeding and night driving. | Ongoing and annual review   | Covalent Environmental Manager |
| Feral fauna monitoring  | • Monitoring of the existing feral species populations (focussing on the fox and cat populations). This information is intended to provide a baseline for comparison of feral species numbers over the life of mine. The information will also guide any feral species control programs implemented in the Proposal area. | Ongoing and annual review   | Covalent Environmental Manager |
| Clearing monitoring     | • Monitoring of clearing register for compliance to approvals.  
  • Review of clearing footprint to determine clearing proximity to active Malleefowl mounds.  
  • Internal audit and inspection of areas of clearing, areas of potential entrapment, speeding and night driving. | Ongoing and annual review   | Covalent Environmental Manager |
| Fauna habitat monitoring| • Annual monitoring of vegetation condition as an indicator of fauna habitat quality. | Annual                     | Covalent Environmental Manager |
2.5 Reporting

The Fauna Management Plan sets out the reporting requirements relating to its implementation. Reporting includes:

- preparation annually of a Compliance Assessment Report (CAR) to be submitted to the appropriate regulatory authorities. The CAR will include:
  - a summary of compliance requirements
  - summary of compliance during the reporting period
  - non-compliances and corrective / preventative actions
  - compliance assessment table
  - documentary evidence
- provision of data (annually) from monitoring programs to relevant regulatory authorities
- in the event that a management target is exceeded (or not met), the relevant regulatory authorities will be notified within 7 days of identification of the exceedance, including information on remediation actions that have been or will be implemented.

Additionally, Table 2-6 outlines proposed internal and external reporting actions specific to notification events outside of the required CAR.

### Table 2-6: Fauna reporting actions

<table>
<thead>
<tr>
<th>Notification Event</th>
<th>Action</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fauna specialist confirms new, active, Mallee fowl mound within approved project disturbance footprint and relocation of individuals is required</td>
<td>Report to regulator DBCA as part of Licence to Take Fauna requirements and inform DoEE</td>
<td>Fauna specialist</td>
<td>At time of monitoring</td>
</tr>
<tr>
<td>Trigger exceedance</td>
<td>The relevant regulatory authorities (DWER and DoEE) will be notified within 7 days of identification of the exceedance, including trigger contingency actions which have been implemented due the exceedance of trigger criteria</td>
<td>Environmental Manager</td>
<td>At time of event</td>
</tr>
<tr>
<td>Threshold exceedance</td>
<td>The relevant regulatory authorities (DWER and DoEE) will be notified within 7 days of identification of the exceedance, including threshold contingency actions which have been implemented due the exceedance of threshold criteria</td>
<td>Environmental Manager</td>
<td>At time of event</td>
</tr>
<tr>
<td>Mortality of conservation significant fauna</td>
<td>The relevant regulatory authorities (including DBCA and DoEE) will be notified within 48 hours of the incident</td>
<td>Environmental Manager</td>
<td>At time of event</td>
</tr>
<tr>
<td>Evaluation and revision triggered</td>
<td>Review and report to regulator, as required by legislation or legislative condition</td>
<td>Environmental Manager</td>
<td>At time of event</td>
</tr>
</tbody>
</table>
3. Adaptive Management and FMP Review

Covalent recognises the dynamic nature of ecosystems and supports adaptive management under this FMP. Adaptive management involves:

- implementing mitigation measures
- monitoring and evaluation against management targets (including early response triggers) and environmental criteria (including triggers and thresholds)
- systematically adapting management and mitigation measures and monitoring to meet the environmental objectives.

There remain some uncertainties associated with the Proposal and associated management targets that will require ongoing review and consideration. Assumptions and predicted ecosystem responses will be evaluated against collected monitoring data on a recurrent basis, in a process of continual improvement and establishing early response indicators/criteria. Examples of adaptive management throughout operations include:

- the introduction of a different / alternative monitoring initiative to better understand parts of an ecosystem responding differently to that expected
- the identification of more effective trigger criteria or early response triggers in light of more comprehensive monitoring information
- updated modelling and revision of trigger criteria or early response triggers in a system responding differently to that predicted in original modelling
- changes to management actions and targets in response to monitoring data
- changes in technology.

3.1 Early response triggers

Early response triggers have been established for the management-based provisions in Table 2-3 and are detailed in Table 3-1.
<table>
<thead>
<tr>
<th>Management targets</th>
<th>Early response trigger</th>
<th>Early response action</th>
<th>Early response trigger justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimise incidental mortality of Malleefowl or Chuditch from clearing activity, entrapment, vehicle strike or mining related fire</td>
<td>Significant increase in Malleefowl or Chuditch sightings within or adjacent to mining activity areas</td>
<td>Review of population monitoring data to determine any significant changes and determine if additional monitoring is required</td>
<td>The potential for incidental mortality is currently unknown as indirect impacts to the Malleefowl and Chuditch populations have not been quantified. As population monitoring data is gathered, the acceptable impact from incidental mortality is expected to be quantified based on Malleefowl and Chuditch populations, fauna sightings and interactions. In the interim, the early response trigger has been established to identify any significant population changes that could result in an increase to incidental mortality and provide an indication if the management actions detailed in Table 2-3 require review.</td>
</tr>
<tr>
<td>Minimise decline in population health due to predation from feral species</td>
<td>Significant increase in feral species (fox or cat) sightings</td>
<td>Review feral species control programme and amend as required Consultation with DBCA and conservation groups to identify opportunities for local and regional feral species control program.</td>
<td>The potential for population decline due to predation is currently unknown as impacts to the Malleefowl and Chuditch populations have not been quantified. As population monitoring data is gathered, trending will indicate any threats (including predation) and acceptable population changes. This impact is expected to be quantified based on Malleefowl and Chuditch populations and feral animal monitoring through sightings. In the interim, the early response trigger has been established to identify any significant increases to feral species that could result in an increase to Malleefowl and Chuditch individuals and provide an indication if the management actions detailed in Table 2-3 require review.</td>
</tr>
<tr>
<td>Minimise decline in population health due to dust, light, noise, vibration and displacement</td>
<td>Significant decrease in Malleefowl or Chuditch populations that are statistically different from previous monitoring results</td>
<td>Increase monitoring from annual or review monitoring program for adequacy Investigate potential causes for population decrease Consultation with DBCA and conservation groups to determine regional population variances.</td>
<td>The potential for population decline due to indirect impacts is currently unknown as impacts to the Malleefowl and Chuditch populations have not been quantified. As population monitoring data is gathered, trending will indicate any threats and acceptable population changes. This impact is expected to be quantified based on Malleefowl and Chuditch populations and inspections. In the interim, the early response trigger has been established to identify any significant decrease to Malleefowl and Chuditch populations and provide an indication if the management actions detailed in Table 2-3 require review.</td>
</tr>
</tbody>
</table>


3.2 Benchmarking and Best-Practice

For some environmental factors, environmental outcomes may include compliance with state, national or international standards, guidance or legislation. The Proponent will conduct ongoing benchmarking against best practice options. Adaptive management in this context may include initiatives to implement improvements in technology and emission control technologies to meet best-practice in the relevant industry, proponent-driven improvements in operations, and keeping up-to-date with improvements in monitoring methods and standards for implementation.

3.3 Plan Revisions

The proponent will amend this Management Plan as required to include any adaptive management updates. These amendments will be internal (and not require re-submission to the EPA) unless the information gained through the adaptive management approach demonstrates that an amendment to an approved condition is required. If the Proponent has gathered sufficient information through research and long-term monitoring to propose revisions to management targets, a formal request for amendment of an approved condition may be submitted to the relevant authority.
4. Stakeholder consultation

4.1 Key Stakeholders

Covalent have commenced an extensive consultation process with key stakeholders, including:

- State government
- Federal government
- Local government
- Non-government organisations and interest groups.

A comprehensive list of key stakeholders is provided in Table 4-1.

Table 4-1: Key Stakeholders

<table>
<thead>
<tr>
<th>Stakeholder Group</th>
<th>Stakeholder</th>
<th>Key Interests</th>
</tr>
</thead>
</table>
| State Government  | Environmental Protection Authority (EPA) | • Administration of the Environmental Protection Act 1986 (EP Act)  
• Part IV (EP Act) Environmental Impact Assessments |
|                   | Department of Mines, Industry Regulation and Safety (DMIRS) | • Administration of the Mining Act 1978 (Mining Act)  
• Tenement conditions  
• Mining proposals and programs of work  
• Mining Rehabilitation Fund (MRF)  
• Closure and rehabilitation  
• Safety |
|                   | Department of Biodiversity, Conservation and Attractions (DBCA) | • Administration of the Biodiversity Conservation Act 2016 (BC Act)  
• Flora, fauna and habitat conservation |
|                   | Department of Planning, Lands and Heritage (DPLH) | • Native title and indigenous requirements  
• Heritage sites |
|                   | Department of Fire and Emergency Services (DFES) | • Emergency services  
• Fire breaks  
• Fire reduction |
|                   | Main Roads Western Australia (MRWA) | • Use of public roads |
| Federal Government | Department of the Environment and Energy (DoEE) | • Administration of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)  
• Referral and assessment of environmental impact assessments of matters of national environmental significance |
| Local Government  | Shire of Yilgarn and Shire of Kondinin | • Use of public roads and infrastructure |
| Non-government organisations and interest groups | Conservation Council of Western Australia Wilderness Society National Malleefowl Recovery Team | • Protection of conservation significant species  
• Potential interest in baseline flora and fauna survey data |

4.1.1 Stakeholder Engagement Process

Stakeholder engagement with State Departments and Local Government Authorities commenced in late 2016. The Proponent has since developed and implemented an external stakeholder consultation strategy for ongoing social engagement and community investment. As the joint venture manager, Covalent will be responsible for all engagement moving forward.
The stakeholder consultation strategy has adopted the principles from the Ministerial Council on Mineral and Petroleum Resources (MCMPR) *Principles for Engagement with Communities and Stakeholders* (2005). This includes:

- open and effective communication:
  - two-way communication
  - clear, accurate and relevant information
  - timeliness
- transparency, requiring a process for communication and feedback
- collaboration, working cooperatively to seek mutually beneficial outcomes
- inclusiveness, with the aim of recognising, understanding and involving stakeholders early and throughout the process
- integrity, with engagement undertaken in a manner that fosters mutual respect and trust.

The outcomes of the consultation strategy are recorded in the Stakeholder Consultation Register.

Consultation to date has comprised predominately of meetings and correspondence with a number of State and Federal Departments and Agencies, Local Government Authorities, Traditional Owners and non-government organisations and interest groups.

The Proponent is committed to ongoing stakeholder identification, communication, engagement and consultation through the planning and approval phase, and through to construction, operational and closure phases of the Project.

**Stakeholder Consultation**

Ongoing stakeholder consultation has been underway since late 2016. Key engagement to date is summarised in Section 3.3 of the Environmental Review Document.
5. Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active / inactive Malleefowl mound</td>
<td>The classification of Malleefowl mound activity is be based on the National Malleefowl Monitoring Procedure (NMRT 2016) and as assessed by a fauna specialist.</td>
</tr>
<tr>
<td>Direct impact</td>
<td>Impact through further loss and fragmentation of habitat from vegetation clearing.</td>
</tr>
</tbody>
</table>
| Indirect impact                    | Impact through:  
  - death, injury and displacement from construction and mining operations, vehicle strikes and changed fire regimes  
  - increased feral fauna presence as a result of increased access into areas from new tracks and roads, and attraction to rubbish tips  
  - dust, light, noise and vibration during construction and mining operations. |
6. **Acronyms and short titles**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC Act</td>
<td>Biodiversity Conservation Act 2016</td>
</tr>
<tr>
<td>CAR</td>
<td>Compliance Assessment Report</td>
</tr>
<tr>
<td>DBCA</td>
<td>Department of Biodiversity, Conservation, and Attractions</td>
</tr>
<tr>
<td>DFES</td>
<td>Department of Fire and Emergency Services</td>
</tr>
<tr>
<td>EMP</td>
<td>Environmental Management Plan</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Authority</td>
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7. References


