



# Biodiversity Management Plan

## Table of Commitments – BioMP

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                                        | <b>Approval/EIS Reference</b>                                                        | <b>Status</b>      | <b>MP Section</b> |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------|-------------------|
| <b>3.3_1</b>          | United Wambo will not clear more than:<br>a. 203.7 hectares of Regent Honeyeater ( <i>Anthochaera phrygia</i> ) habitat,<br>b. 203.7 hectares of Swift Parrot ( <i>Lathamus discolor</i> ) habitat,<br>c. 352.9 hectares of Spotted-tail quoll ( <i>Dasyurus maculatus maculatus</i> ) habitat,<br>d. 246.8 hectares of the Central Hunter Valley Eucalypt Forest and Woodland ecological community. | EPBC 2015/7600 Condition 02                                                          | Ongoing Commitment | 3.3               |
| <b>3.5.1.1_1</b>      | United Wambo will engage a suitably qualified person to prepare a Biodiversity Management Plan (BioMP). The BioMP will be prepared in accordance with relevant statutory requirements (including approval and EIS commitments) and in consultation with OEH.                                                                                                                                         | SSD 7142 Condition B71(a)<br>SOC_8.0_Management Measures_046<br>SOC_6.09_Ecology_003 | Complete           | 3.5.1.1           |
| <b>3.5.1.2_1</b>      | United will develop a Biodiversity Management Plan in consultation with the OEH and submit to the Planning Secretary for approval.                                                                                                                                                                                                                                                                   | SSD 7142 Condition B71(b)                                                            | Complete           | 3.5.1.2           |
| <b>3.5.1.3_1</b>      | United Wambo will not commence Phase 1A until the Biodiversity Management Plan is approved by the Planning Secretary.                                                                                                                                                                                                                                                                                | SSD 7142 Condition B72<br>EPBC 2015/7600 Condition 03                                | Complete           | 3.5.1.3           |
| <b>3.5.1.3_2</b>      | Within 12 months of commencing Phase 1B, or other timeframe agreed by the Planning Secretary, the Applicant must make suitable arrangements for the long-term protection of 18.5 hectares of compensatory habitat to account for disturbing the previous compensatory habitat area for United Underground Coal Mine (DA 410-11-2002-i).                                                              | SSD 7142 Condition B70                                                               | Complete           | 3.5.1.3           |

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Approval/EIS Reference</b>                                                              | <b>Status</b>                                                 | <b>MP Section</b> |
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| <b>3.5.2_1</b>        | <i>United Wambo will implement the approved BioMP in accordance with relevant statutory requirements (including approvals and EIS commitments).</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <i>SSD 7142 Condition B73<br/>SOC_8.0_Management Measures_046<br/>SOC_6.09_Ecology_003</i> | <i>Ongoing Commitment</i>                                     | <i>3.5.2</i>      |
| <b>4.3_1</b>          | <i>The United Wambo Biodiversity Management Plan for the Project will include a detailed impact mitigation strategy prepared generally in accordance with the UHSA Guidelines for the Mitigation of Coal Mining Impacts on Biodiversity. The impact mitigation strategy will address the following key elements:<br/>o landform establishment<br/>o implementation of clearing procedures to minimise the impacts of the clearing process and maximise the recovery of any valuable biodiversity resources (e.g. seed collection, re-use of hollow logs and tree hollows where appropriate)<br/>o feral animal and noxious weed control<br/>o fencing and access control<br/>o management of domestic stock<br/>o pathogen management<br/>o bushfire management</i> | <i>SOC_8.0_Management Measures_046</i>                                                     | <i>Captured through implementation of management measures</i> | <i>4.3</i>        |
| <b>4.3_2</b>          | <i>United Wambo will implement water management systems that seek to minimise the potential for damage to flora and fauna and their habitats from erosion and unnatural flooding events</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <i>SOC_6.09_Ecology_002</i>                                                                | <i>Ongoing Commitment</i>                                     | <i>4.3</i>        |
| <b>4.3_3</b>          | <i>United Wambo will implement landform establishment for the protection and preservation of ecological features of the project area.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <i>SOC_6.09_Ecology_002</i>                                                                | <i>Ongoing Commitment</i>                                     | <i>4.3</i>        |

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Approval/EIS Reference</b>                                                                                                                           | <b>Status</b>      | <b>MP Section</b> |
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| <b>4.3_4</b>          | <p>United Wambo will implement ground disturbance approval process minimise impacts to, and maximise the recovery of, any valuable biodiversity resources. This includes:</p> <ul style="list-style-type: none"> <li>- pre-clearance surveys</li> <li>- habitat felling procedures, including handling and transport of native fauna</li> <li>- biodiversity resource management (soils, habitat trees)</li> </ul> <p>Further information on the Ground Disturbance/Land Clearing process is provided in Section 4.3.1.</p> | <p>SOC_6.09_Ecology_002<br/>SOC_6.09_Ecology_009<br/>SOC_6.09_Ecology_010<br/>SOC_6.09_Ecology_011<br/>SOC_6.09_Ecology_01<br/>SOC_6.09_Ecology_012</p> | Ongoing Commitment | 4.3               |
| <b>4.3_5</b>          | <p>United Wambo will avoid direct impacts on the 0.1 hectare stand of Hunter Valley Weeping Myall Woodland within the Project Area. The stand will be managed for the recovery of the community and will be fenced to exclude grazing stock and unauthorised intrusions (with a 20 metre buffer between the stand and the fence).</p>                                                                                                                                                                                       | <p>SOC_8.0_Management Measures_045<br/>SOC_6.09_Ecology_001</p>                                                                                         | Ongoing Commitment | 4.3               |
| <b>4.3_6</b>          | <p>Local provenance seed will be targeted for collection at United Wambo including during clearing activities (i.e. collection of seeds from felled trees) where possible. However, due to the intermittent and unpredictable nature of native species seed production, the volumes of seed expected to be collected are low to very low. Seed collection activities will be managed in accordance with the Flora Bank Guidelines (Florabank 2013).</p>                                                                     | <p>SSD 7142 B71 (g)<br/>SOC_8.0_Management Measures_046</p>                                                                                             | Ongoing Commitment | 4.3               |
| <b>4.3_7</b>          | <p>Seed propagation activities will be undertaken by an external contractor who is suitably trained, licenced and experienced in propagation of the species required for revegetation. Ideally, all seed collected as part of the seed collection program will be used for tree propagation or direct seeding activities.</p>                                                                                                                                                                                               | <p>SSD 7142 B71 (g)<br/>SOC_8.0_Management Measures_046</p>                                                                                             | Ongoing Commitment | 4.3               |

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Approval/EIS Reference</b>                                                                        | <b>Status</b>             | <b>MP Section</b> |
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|                       | <i>Where local provenance seed is unavailable, native seed will be purchased from suitable seed suppliers as required. Local provenance seed will be purchased from these suppliers as much as possible</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                      |                           |                   |
| <b>4.3_8</b>          | <p><i>United Wambo will manage domestic stock for the protection and preservation of ecological features of the project area. Domestic stock may be strategically grazed in parts of the Project Area to reduce weed species or to manage fuel loads for bushfire risk. Stock grazing mitigation measures will be implemented in accordance with EIS commitments to manage the impacts of domestic stock. Areas of potential grazing are shown in <b>Figure 4.1</b></i></p> <p>United Wambo will implement fencing and access controls for the protection and preservation of ecological features of the project area. If new fencing used within the Project Area adjacent to native vegetation areas is required, where possible, the use of as few wire strands as practical will be considered to reduce potential for fauna entanglement</p> | <p><i>SOC_6.09_Ecology_002</i><br/> <i>SOC_6.09_Ecology_018</i><br/> <i>SOC_6.09_Ecology_019</i></p> | <i>Ongoing Commitment</i> | <b>4.3</b>        |
| <b>4.3_9</b>          | <p><i>United Wambo will implement bushfire management for the project area and will include the application of fire research knowledge to generate ecological outcomes through the appropriate use of fire as an ecological management tool.</i></p> <p><i>Use of fire as a tool for ecological management may improve the outcomes of weed control and biodiversity enhancement activities. However, due to the young age of most remnant vegetation and rehabilitation areas within the site, controlled burns are not</i></p>                                                                                                                                                                                                                                                                                                                  | <p><i>SOC_6.09_Ecology_002</i><br/> <i>SOC_6.09_Ecology_021</i></p>                                  | <i>Ongoing Commitment</i> | <b>4.3</b>        |

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Approval/EIS Reference</b>                                       | <b>Status</b>             | <b>MP Section</b> |
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|                       | <i>currently planned for management purposes.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                     |                           |                   |
| <b>4.3_10</b>         | <p><i>United Wambo will re-establish ground fauna habitat through the relocation of cleared vegetation to targeted mine site rehabilitation areas, where practicable and construct dams to facilitate the re-colonisation of woodland fauna communities.</i></p> <p><i>The project should implement habitat enhancement measures of retained vegetation such as provision of nest boxes, salvaged hollows, fallen timber, hollow logs and boulders, as deemed necessary.</i></p> | <p><i>SOC_6.09_Ecology_022</i><br/> <i>SOC_6.09_Ecology_023</i></p> | <i>Ongoing Commitment</i> | <i>4.3</i>        |
| <b>4.3_11</b>         | <p><i>United Wambo will implement pathogen management mitigation strategies for the protection and preservation of ecological features of the project area. This includes:</i></p> <ul style="list-style-type: none"> <li><i>- Commissioning a suitably qualified personnel to undertake pathogen control works.</i></li> <li><i>- Ensure any vehicles and equipment that may have come into contact with contaminated equipment is appropriately cleaned.</i></li> </ul>        | <p><i>SOC_6.09_Ecology_002</i><br/> <i>SOC_6.09_Ecology_020</i></p> | <i>Ongoing Commitment</i> | <i>4.3</i>        |

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Approval/EIS Reference</b>                                                                            | <b>Status</b>             | <b>MP Section</b> |
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| <b>4.3_12</b>         | <p><i>Due to the history of prior mining activities and disturbance on the United Wambo site, weed species are present throughout both the remnant vegetation and disturbed / rehabilitated areas. Weed species could be inadvertently brought onto the site with imported materials or could invade naturally through removal of native vegetation. The presence of weed species has the potential to be an impediment to rehabilitation outcomes.</i></p> <p><i>United Wambo has prepared a schedule of land management activities for the disturbed areas of the site, which includes weed and vegetation control at appropriate times of the year. Any non-routine weed control requirements within the disturbed areas of the site will be identified through regular environmental inspections.</i></p> <p><i>The identification and management of weeds within the BSS's are addressed in the individual BSS Management Plans.</i></p> | <p><i>SOC_6.03_Agriculture_008</i><br/> <i>SOC_6.09_Ecology_014</i><br/> <i>SOC_6.09_Ecology_016</i></p> | <i>Ongoing Commitment</i> | <i>4.3</i>        |

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Approval/EIS Reference</b>                                                     | <b>Status</b>      | <b>MP Section</b> |
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| <b>4.3_13</b>         | <p>The objective of pest animal control at United Wambo is to reduce and, where possible, eliminate declared vertebrate pest species, through an integrated approach involving a combination of chemical and physical control methods. Assessment for the presence of vertebrate pests is to be undertaken as part of:</p> <ul style="list-style-type: none"> <li>- the ongoing rehabilitation monitoring program;</li> <li>- routine on-site inspections; and</li> <li>- opportunistic sightings by any personnel</li> </ul> <p>Pest animal control will be undertaken in consideration of the control recommendations outlined in the Department of Primary Industries Vertebrate Pest Control Manual (DPI 2014), the NSW Codes of Practices (COPs) and Standard Operating Procedures (SOPs) and recommendations in relevant Government - Threat Abatement Plans (TAP)</p> <p>Further information on pests at United Wambo are covered in Section 4.3.2</p> | <p>SOC_6.03_Agriculture_008<br/>SOC_6.09_Ecology_014<br/>SOC_6.09_Ecology_016</p> | Ongoing Commitment | 4.3               |
| <b>4.4.1_1</b>        | <p>United Wambo may use Ecological Mine Rehabilitation to satisfy up to 20% of the CEEC ecosystem credit requirements in the approval. The land used for Ecological Mine Rehabilitation cannot be the same as land used to establish Open Woodland Revegetation under condition B69 and DA 305-7-2003.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SSD 7142 Condition B61                                                            | Complete           | 4.4.1             |
| <b>4.4.2_1</b>        | <p>Rehabilitation offset performance and completion criteria are required to be developed and included in the Rehabilitation Management Plan.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | SSD 7142 Condition B62                                                            | Complete           | 4.4.2             |

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Approval/EIS Reference</b>                                                                        | <b>Status</b> | <b>MP Section</b> |
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| <b>4.4.3_1</b>        | <i>Within 10 years of the cessation of mining operations, or other timeframe agreed by the Planning Secretary, United Wambo will retire the ecosystem credits generated from Ecological Mine Rehabilitation. If the Ecological Mine Rehabilitation areas do not comply with the residual credit requirements and/or the relevant objectives outlined in the approval then United Wambo will retire the residual credit requirements in consultation with OEH and in accordance with the Biodiversity Offsets Scheme of the BC Act, to the satisfaction of the BCT.</i>                                            | SSD 7142 Condition B62                                                                               | Not Triggered | 4.4.3             |
| <b>4.4.3_2</b>        | <i>If United Wambo elects to undertake Ecological Mine Rehabilitation under condition, a Conservation Bond must be lodged with the Planning Secretary. Calculation, lodging, and reviewing of the Conservation Bond must occur in accordance with development consent SSD 7142.</i>                                                                                                                                                                                                                                                                                                                               | SSD 7142 Condition B63<br>SSD 7142 Condition B64<br>SSD 7142 Condition B65<br>SSD 7142 Condition B66 | Complete      | 4.4.3             |
| <b>4.4.3_3</b>        | <i>If the Applicant provides proof that a condition under Part 12A of the Mining Act 1992 has been imposed on a mining lease applicable to the site that requires the holder of the lease to provide and maintain a security deposit to the Resources Regulator to secure funding for the fulfilment of obligations under the lease relating to the successful implementation of Ecological Mine Rehabilitation, then the Planning Secretary may determine that no Conservation Bond is required under condition B63, or if a Conservation Bond has already been provided to the Planning Secretary, then the</i> | SSD 7142 Condition B68                                                                               | Not Triggered | 4.4.3             |

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                              | <b>Approval/EIS Reference</b>                                                                                                         | <b>Status</b>             | <b>MP Section</b> |
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|                       | <i>Planning Secretary may release the Conservation Bond.</i>                                                                                                                                                                                                                                                                                                                               |                                                                                                                                       |                           |                   |
| <b>4.5_1</b>          | <i>United Wambo will implement a comprehensive Biodiversity Offset Strategy for the project in accordance with relevant statutory requirements (including approval and EIS commitments). The Biodiversity offsets strategy will include the establishment of proponent-managed offset sites possibly including the Highfields Offset Site, Mangrove Offset Site and Wambo Offset Site.</i> | <i>SSD 7142 Condition B71<br/>SOC_8.0_Management Measures_048<br/>EPBC 2015/7600 Condition 03<br/>SOC_8.0_Management Measures_048</i> | <i>Ongoing Commitment</i> | <i>4.5</i>        |
| <b>4.5_2</b>          | <i>The Biodiversity offsets strategy will include mine site ecological rehabilitation contributing 25% of the overall biodiversity offset requirement (estimated at around 878 hectares of ecological rehabilitation)</i>                                                                                                                                                                  | <i>SOC_8.0_Management Measures_048</i>                                                                                                | <i>Ongoing Commitment</i> | <i>4.5.1</i>      |
| <b>4.5.1_1</b>        | <i>With the agreement of the Planning Secretary, United Wambo may adjust the staging of surface disturbance and the associated credit retirements in the approval. United Wambo may also carry over surplus retired credits to satisfy the credit requirements of a later stage. This must be done in accordance with SSD 7142 Conditions B58 - B60.</i>                                   | <i>SSD 7142 Condition B58<br/>SSD 7142 Condition B59<br/>SSD 7142 Condition B60</i>                                                   | <i>Not triggered</i>      | <i>4.5.1</i>      |
| <b>4.5.1.2</b>        | <i>Proposed offset sites will be established as BioBank sites under BioBanking Agreements, providing for in-perpetuity conservation and reporting consistent with the NSW BioBanking scheme.</i>                                                                                                                                                                                           | <i>SOC_8.0_Management Measures_049<br/>SOC_6.09_Ecology_006</i>                                                                       | <i>Ongoing Commitment</i> | <i>4.5</i>        |

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Approval/EIS Reference</b>                                                                                                                                                                   | <b>Status</b>             | <b>MP Section</b> |
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| <b>4.5.1_3</b>        | <i>United Wambo will retire the biodiversity credits specified in the requirements of the approval or the equivalent number of credits (calculated in accordance with the BC Act) as set out in the Biodiversity Management Plan, to offset the biodiversity impacts of the development. The retirement of credits must be carried out in consultation with OEH and in accordance with the Biodiversity Offsets Scheme of the BC Act and development consent, to the satisfaction of the BCT. If the Planning Secretary has been provided with proof that all biodiversity credits have been retired and is satisfied, then the Conservation Bond will be released.</i> | <i>SSD 7142 Condition B55<br/>SSD 7142 Condition B57<br/>SSD 7142 Condition B56<br/>SSD 7142 Condition B67<br/>SOC_8.0_Management Measures_050<br/>SOC_6.09_Ecology_007<br/>SOC_PAC_Res_014</i> | <i>Complete</i>           | <i>4.5.1</i>      |
| <b>4.5.1_4</b>        | <i>The Biodiversity offsets strategy will include payments into the Upper Hunter Offsets Scheme fund and/or establishment of further offset sites for the residual credits that need to be retired.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <i>SOC_8.0_Management Measures_048</i>                                                                                                                                                          | <i>Ongoing Commitment</i> | <i>4.5</i>        |
| <b>5.1_1</b>          | <i>United Wambo will implement formal monitoring programs and due diligence assessments that periodically examine measurable changes over time and provide information on impacts and the success or otherwise of Biodiversity mitigation actions, and as such will be used to provide for the Biodiversity Management Plan to be reviewed and adapted when required.</i>                                                                                                                                                                                                                                                                                               | <i>SOC_6.09_Ecology_003<br/>SOC_6.09_Ecology_004<br/>SOC_8.0_Management Measures_047</i>                                                                                                        | <i>Ongoing Commitment</i> | <i>5.1</i>        |

| <b>Commitment Ref</b> | <b>Commitment Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Approval/EIS Reference</b>                                      | <b>Status</b>             | <b>MP Section</b> |
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| <b>5.2.1_1</b>        | <p><i>Inspections will be conducted on mine (rehabilitation, native vegetation) and buffer lands. These will assess:</i></p> <ul style="list-style-type: none"> <li><i>• the condition of site features such as fences, gates and access tracks;</i></li> <li><i>• any evidence of unauthorised access or stock grazing;</i></li> <li><i>• areas of erosion or sedimentation;</i></li> <li><i>• weed infestations;</i></li> <li><i>• evidence of pest fauna; and</i></li> <li><i>• adequacy of bushfire management, including fuel loads, water availability and access</i></li> </ul> | <p><i>SOC_6.09_Ecology_015</i><br/><i>SOC_6.09_Ecology_017</i></p> | <i>Ongoing Commitment</i> | <i>5.2.1</i>      |

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# 1. Purpose

---

The purpose of the Biodiversity Management Plan (BioMP) is to describe the ecological management strategies, procedures, controls and monitoring programs, including pre-disturbance procedures to be implemented for the management of biodiversity, stewardship sites and flora and fauna within the United Wambo Project Area.

The BioMP is intended to meet statutory and internal requirements, particularly the Development Consent SSD 7142, Glencore Coal Assets Australia (GCAA) Standards, and Controlled Action approval 2015/7600 issued under the Commonwealth Environment Protection and Biodiversity Conservation Act, 1999 (EPBC Act).

## 2. Scope and Objectives

---

### 2.1 Scope

United Wambo is situated approximately 15 kilometres west of Singleton, near the village of Warkworth, New South Wales (*Figure 2-1*). United Wambo is a 50:50 joint venture between United Collieries Pty Limited (United) and Wambo Coal Pty Limited (Wambo). United is owned 95 per cent by Abelsore Pty Limited, a wholly owned subsidiary of Glencore Coal Pty Limited (Glencore) and five per cent by the Mining and Energy Union (MEU). Wambo is a subsidiary of Peabody Energy Australia Pty Limited.

United Wambo is managed by Glencore and has approval to extract up to 10 million tonnes per annum (mtpa) of Run of Mine (ROM) coal up until 31 August 2042. ROM coal is processed through the Wambo Coal Handling and Preparation Plant (CHPP) and transported by rail from Wambo to the Port of Newcastle for export.

This BioMP applies to all operational activities and land within the project approval boundary.

The BioMP applies to all United Wambo employees and contractors working for, or on behalf of, United Wambo within the project approval boundary

The Biodiversity Stewardship Sites (BSSs) identified in *Section 4.5* are not addressed specifically in this BioMP as they each have a Biodiversity Stewardship Agreement (BSA) which details the management requirements for each site. The BSSs include the following:

- Highfields Biodiversity Stewardship Site;
- Mangrove Biodiversity Stewardship Site;
- Wambo Biodiversity Stewardship Site;
- Jerrys Plains Biodiversity Stewardship Site;
- Brosi Biodiversity Stewardship Site; and
- South Wambo Biodiversity Stewardship Site.



Figure 2-1: Locality Plan

## 2.2 Objectives

The objectives of this BioMP are to:

- to provide the context on baseline biodiversity of the area and the potential impacts associated with the operation;
- outline the statutory requirements of the plan;
- outline the obligations and commitment measures to be implemented to minimise biodiversity harm from the operation;
- describe the biodiversity monitoring system which will be used to assess the confirm changes in biodiversity condition; and
- outline the review and improvement process which will be implemented for the BioMP

## 3. Planning

### 3.1 Baseline Data

The existing environment of United Wambo has been assessed in detail in the following:

- Environmental Impact Statement, Umwelt August 2016 (EIS), including UHSA Statement of Consistency, Umwelt August 2016;
- Response to Submissions Part B, Umwelt May 2017 (RTS), including the Biodiversity Assessment Report, Umwelt May 2017; and
- Response to IPC Review Report, Umwelt June 2018, including Addendum Report for Additional Offset Sites, Umwelt May 2018.

A summary of the information presented in these assessments is provided in the sections below.

#### 3.1.1 Climatic Conditions

The annual statics for wind speed, temperature and rainfall data for the Jerrys Plains region is provided in **Table 3-1**.

*Table 3-1: Annual Climate Statistics*

| Month     | 2022 Monthly Mean <sup>1</sup> |                  | 2022 Total Rainfall <sup>1</sup><br>(mm) | Historical Averages <sup>2</sup> |                  |                         |
|-----------|--------------------------------|------------------|------------------------------------------|----------------------------------|------------------|-------------------------|
|           | Min Temp<br>(°C)               | Max Temp<br>(°C) |                                          | Min Temp<br>(°C)                 | Max Temp<br>(°C) | Rainfall<br>Median (mm) |
| January   | 19.1                           | 29.1             | 68.0                                     | 17.2                             | 31.8             | 77.1                    |
| February  | 17.4                           | 27.9             | 62.2                                     | 17.1                             | 30.9             | 73.1                    |
| March     | 17.0                           | 25.1             | 340.2                                    | 15.0                             | 28.9             | 59.7                    |
| April     | 13.4                           | 23.4             | 40.6                                     | 11.0                             | 25.3             | 44.0                    |
| May       | 10.5                           | 19.7             | 44.8                                     | 7.4                              | 21.3             | 40.7                    |
| June      | 6.0                            | 16.4             | 9.6                                      | 5.3                              | 18.0             | 48.1                    |
| July      | 7.1                            | 15.8             | 227.8                                    | 3.8                              | 17.4             | 43.4                    |
| August    | 7.8                            | 18.5             | 64.2                                     | 4.4                              | 19.4             | 36.1                    |
| September | 9.7                            | 20.0             | 81.2                                     | 7.0                              | 22.9             | 41.7                    |
| October   | 12.7                           | 22.7             | 117.0                                    | 10.3                             | 26.3             | 51.9                    |
| November  | 12.1                           | 25.3             | 79.0                                     | 13.2                             | 29.1             | 61.9                    |

| Month    | 2022 Monthly Mean <sup>1</sup> |               | 2022 Total Rainfall <sup>1</sup> (mm) | Historical Averages <sup>2</sup> |               |                      |
|----------|--------------------------------|---------------|---------------------------------------|----------------------------------|---------------|----------------------|
|          | Min Temp (°C)                  | Max Temp (°C) |                                       | Min Temp (°C)                    | Max Temp (°C) | Rainfall Median (mm) |
| December | 14.3                           | 27.2          | 58.0                                  | 15.7                             | 31.2          | 67.5                 |

<sup>1</sup> Data taken from United meteorological station

<sup>2</sup> Data from Jerrys Plains Post Office ([www.bom.gov.au](http://www.bom.gov.au))

### 3.1.2 Topography, Drainage and Natural Features

The topography of the site is characterised by gently sloping alluvial plains and undulating hills, with lower topographic areas associated with drainage lines. The foothills of the Wollemi National Park lie to the west of the former Wambo Open Cut and form the dominant landscape feature surrounding United Wambo. There is also a minor ridgeline extending to a height of 200 metres AHD, situated to the north-west of United Wambo.

The majority of the site is located within the catchment area of Wollombi Brook, which is a major tributary of the Hunter River. This catchment includes sub-catchments of Wambo Creek, North Wambo Creek and Redbank Creek.

North Wambo Creek is a tributary of Wollombi Brook flowing in a generally south-easterly direction through and along the southern flank of the site and joining Wollombi Brook approximately one kilometre south of the mine. A section of North Wambo Creek has previously been diverted as part of the former Wambo Open Cut mining operation.

South Wambo Creek, including its tributary, Stony Creek, flows in a north-easterly direction and joins Wollombi Brook approximately two kilometres upstream of the site.

Redbank Creek is a fourth order watercourse that formerly flowed in an easterly direction through the site before joining Wollombi Brook approximately four kilometres upstream of the confluence with Hunter River. Redbank Creek has now been removed within the mine and commences immediately north-east of the operation adjacent to the Golden Highway. Redbank Creek is an ephemeral watercourse with flows only occurring in the creek during storm events or after prolonged rainfall.

Waterfall Creek, a sub-catchment and minor tributary of the Hunter River, is a minor drainage line located to the north of United Wambo, which flows away from the site in a north-easterly direction into the Hunter River.

Previous mining operations within the site have modified local catchments through the capture of runoff from mining areas within the water management systems of both the former United and Wambo Mines and diversion of upslope runoff around the mining operations.

### 3.1.3 Landuse and Vegetation History

The landscape is characterised by mining land, grazing land, cropping and dairying on the Hunter River alluvial zone and some private and public woodland. Wollemi National Park is located approximately 0.5 kilometre west of United Wambo at its closest point to the western boundary of the site.

The landuse within and surrounding United Wambo is dominated by existing coal mining activities including United, Wambo and Hunter Valley Operations and the associated mine-owned buffer land, which is predominantly utilised for grazing.

Prior to the establishment of mining operations, the area had a long history of agricultural land uses, such as grazing.

The site contains large areas of cleared and disturbed land due to a combination of mining operations and infrastructure, infrastructure corridors and past agricultural clearing.

There are substantial areas of remnant vegetation also present within the site, including native vegetation communities providing woodland, riparian, shrubland and grassland habitat and rehabilitated communities. Farm dams and ephemeral watercourses provide drinking water for fauna species.

Due to widespread clearing in the area, most woodland areas are less than approximately 55 years in age and dominated by regenerating and 'middle aged' trees of less than 35 years. The majority of the native vegetation is regrowth revegetation from the period between 1983 and 1992, i.e. at most 35 years old (regrown since 1983), which is most likely related to change in land use from agriculture to mining during this period.

### 3.1.4 Project Disturbance Area

The Project Area for United Wambo covers approximately 3015 hectares, which is mostly land that is already disturbed from existing mining operations (or is subject to disturbance under an existing mining approval). The Project Disturbance Area is approx. 2752 hectares and covers the area approved for surface disturbance under DA 305-7-2003 and the 673 hectares 'Additional Disturbance Area' approved under **SSD 7142** (see **Figure 3-1**).

Initially, an additional 714 hectares was proposed to be disturbed as a result of the Project, however, the Project design was refined to reduce the additional disturbance footprint by 37 hectares. This reduction in the additional disturbance footprint has resulted in the following reductions in impacts to Biodiversity from the Project:

- avoidance of impacts on 19.2 hectares of vegetation conforming to the EPBC Act listed Central Hunter Valley Eucalypt Forest and Woodland Critically Endangered Ecological Community (CEEC);
- avoidance of impacts on 27.1 hectares of native woodland vegetation and fauna habitat; and
- avoidance of impacts on 7.9 hectares of native grassland vegetation.

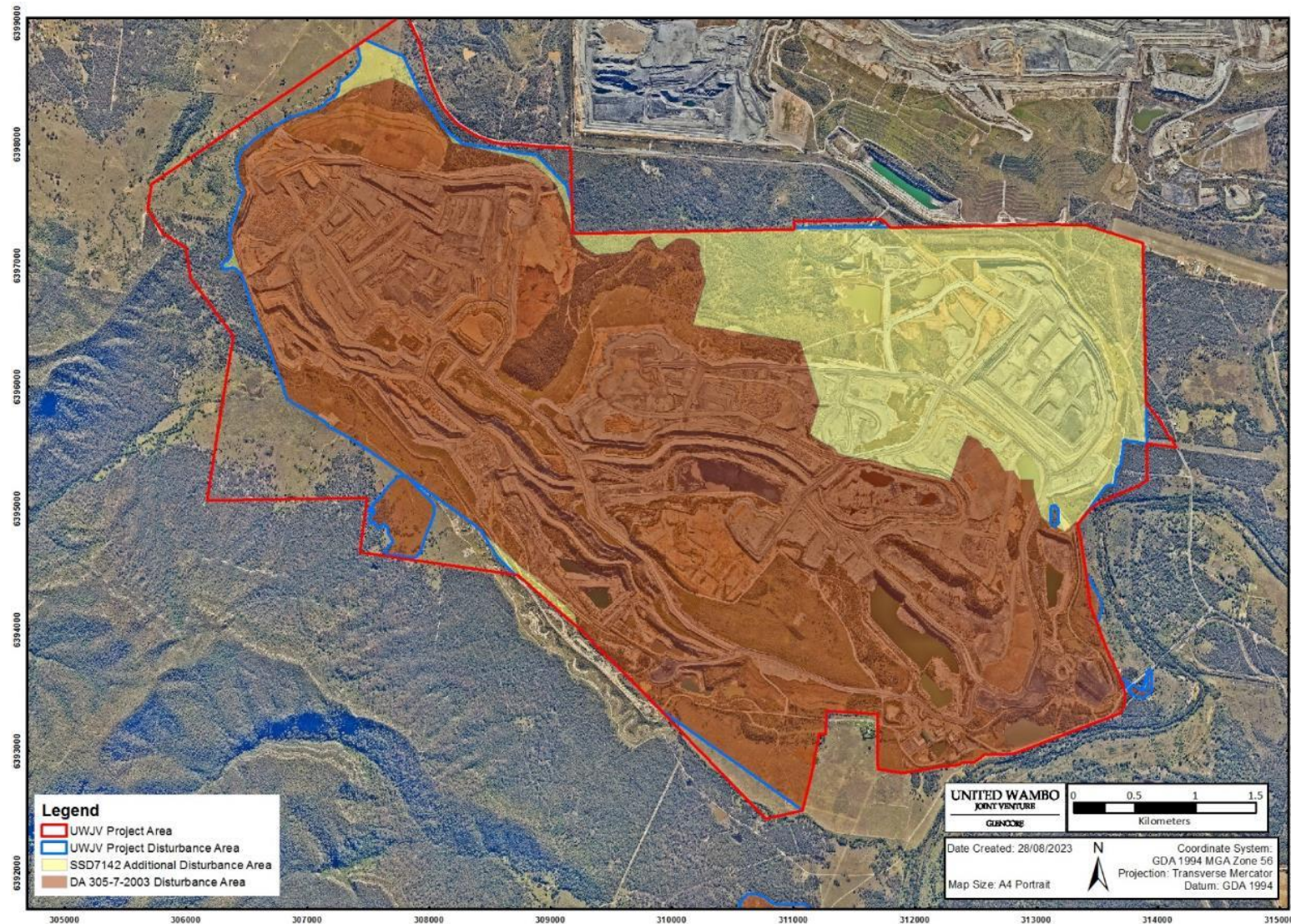


Figure 3-1: Project Disturbance Area

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An additional reduction of approximately four hectares was made to the additional disturbance area following surveying of the Project Area site boundaries. The surveys identified that the NSW Government supplied cadastral boundaries used to determine the Project Area are not survey-accurate, which required a minor amendment to the Project Area and additional disturbance area was required along the northern boundary.

## 3.2 Biodiversity Impacts

### 3.2.1 Clearing of Native Vegetation

There were six Plant Community Types (PCTs)/Biometric Vegetation Types (BVTs) identified across 10 condition classes within the Additional Disturbance Area, as identified in the Biodiversity Assessment Report completed for the Project. Eight of the vegetation zones conform to Threatened Ecological Communities (TECs) listed under the state *Biodiversity Conservation Act, 2016* (BC Act) and the Commonwealth EPBC Act. The PCTs and listed TECs identified and remaining within the site are summarised in **Table 3-2** and illustrated in **Figure 3-2: Vegetation Zones in the Additional Disturbance Area**, **Figure 3-3** and **Figure 3-4**.

Table 3-2: Project Area Vegetation Communities and Threatened Ecological Communities

| PCT/BVT Number | PCT/Vegetation Zone                                                                                  | Area (ha) <sup>1</sup> | Area Remaining (ha) <sup>2</sup> | Condition                                     | Threatened Ecological Communities                                                                                                                                                                                  |
|----------------|------------------------------------------------------------------------------------------------------|------------------------|----------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1598/HU812     | Forest Red Gum grassy open forest on floodplains of the lower Hunter                                 | 0.29                   | 0.29                             | Moderate to Good                              | <i>Hunter Floodplain Red Gum Woodland in the NSW North Coast and Sydney Basin Bioregions EEC</i> (BC Act)                                                                                                          |
| 1602/HU816     | Spotted Gum - Narrow-leaved Ironbark shrub - grass open forest of the central and lower Hunter       | 29.42                  | 0.37                             | Moderate to Good – Plantation/ Rehabilitation | <i>Central Hunter Ironbark – Spotted Gum – Grey Box Forest in NSW North Coast and Sydney Basin Bioregion EEC</i> (BC Act)<br><br>1.17 ha <i>Central Hunter Valley Eucalypt Forest and Woodland CEEC</i> (EPBC Act) |
| 1655/HU869     | Grey Box - Slaty Box shrub - grass woodland on sandstone slopes of the upper Hunter and Sydney Basin | 1.56                   | 0.40                             | Moderate to Good                              | <i>Hunter Valley Footslopes Slaty Gum Woodland in the Sydney Basin Bioregion VEC</i> (BC Act)<br><br>1.13 ha <i>Central Hunter Valley Eucalypt Forest and Woodland CEEC</i> (EPBC Act)                             |
| 1691/HU905     | Narrow-leaved Ironbark - Grey Box grassy woodland of the central and upper Hunter                    | 93.70                  | 28.93                            | Low Condition – Derived Native Grassland      | 10.49 ha <i>Central Hunter Valley Eucalypt Forest and Woodland CEEC</i> (EPBC Act)                                                                                                                                 |
|                |                                                                                                      | 146.09                 | 78.55                            | Moderate to Good                              | <i>Central Hunter Grey Box – Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions</i> (BC Act)<br><br>143.46 ha <i>Central Hunter Valley Eucalypt Forest and Woodland CEEC</i> (EPBC Act)          |

| PCT/BVT Number    | PCT/Vegetation Zone                                                   | Area (ha) <sup>1</sup> | Area Remaining (ha) <sup>2</sup> | Condition                               | Threatened Ecological Communities                                                                                                                                                                                    |
|-------------------|-----------------------------------------------------------------------|------------------------|----------------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |                                                                       | 80.07                  | 32.30                            | Moderate to Good – Cooba Open Shrubland | NA                                                                                                                                                                                                                   |
|                   |                                                                       | 26.55                  | 19.67                            | Moderate to Good – Regeneration         | <i>Central Hunter Grey Box – Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions EEC (BC Act)</i><br><br><i>22.79 ha Central Hunter Valley Eucalypt Forest and Woodland CEEC (EPBC Act)</i>         |
|                   |                                                                       | 0.08                   | 0.08                             | Moderate to Good – Thinned Canopy       | <i>Central Hunter Grey Box – Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions EEC (BC Act)</i><br><br><i>0.08 ha Central Hunter Valley Eucalypt Forest and Woodland CEEC (EPBC Act)</i>          |
| <b>1692/HU906</b> | Bull Oak grassy woodland of the central Hunter Valley                 | 117.43                 | 11.42                            | Moderate to Good                        | <i>3.10 ha Central Hunter Grey Box – Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions EEC (BC Act)</i><br><br><i>10.19 ha Central Hunter Valley Eucalypt Forest and Woodland CEEC (EPBC Act)</i> |
| <b>1731/HU945</b> | Swamp Oak - Weeping Grass grassy riparian forest of the Hunter Valley | 31.50                  | 6.28                             | Moderate to Good                        | NA                                                                                                                                                                                                                   |

<sup>1</sup> Area at the commencement of the Project

<sup>2</sup> Area as at June 2023

CEEC Critically Endangered Ecological Community

EEC Endangered Ecological Community

VEC Vulnerable Ecological Community

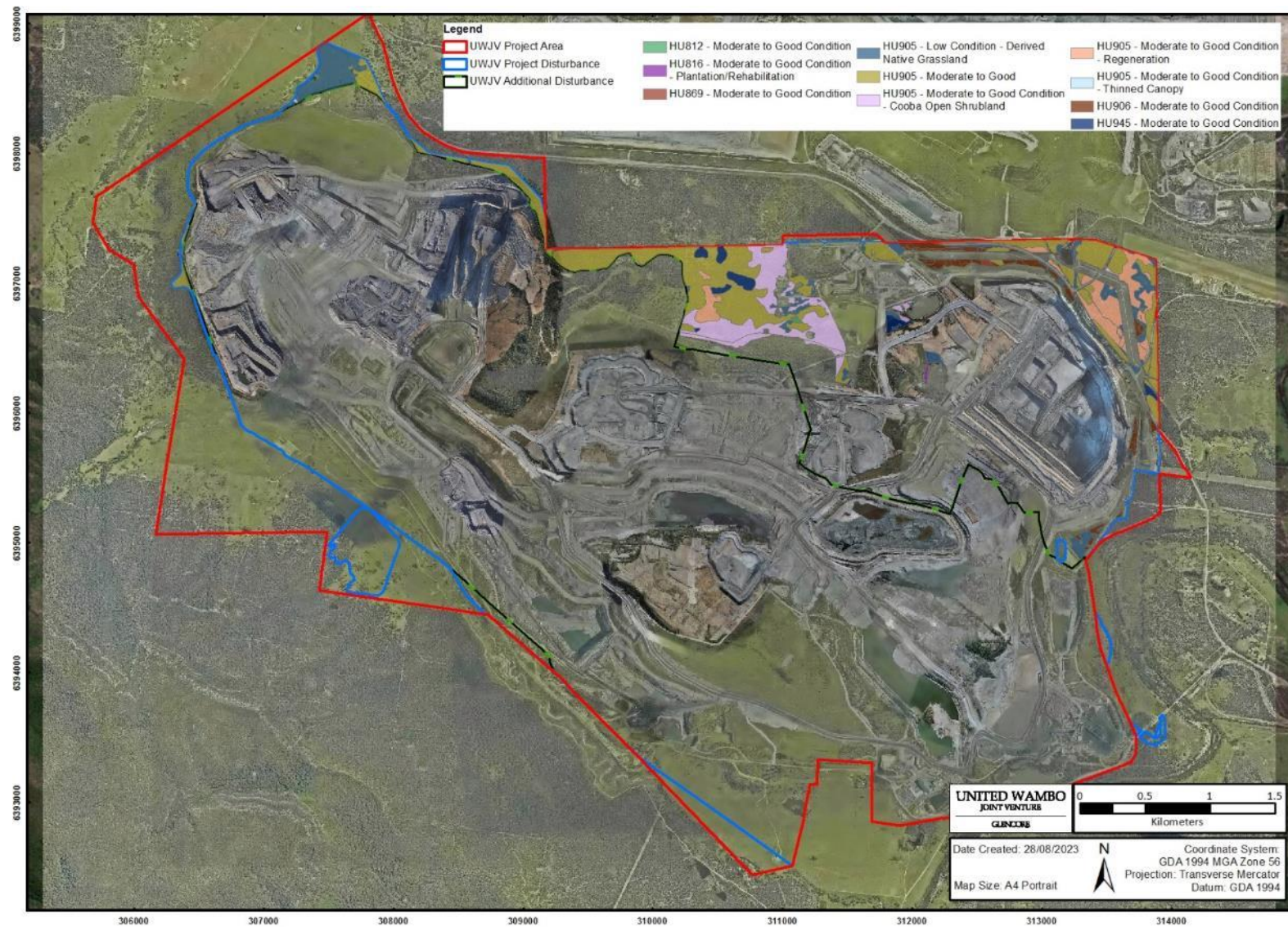


Figure 3-2: Vegetation Zones in the Additional Disturbance Area

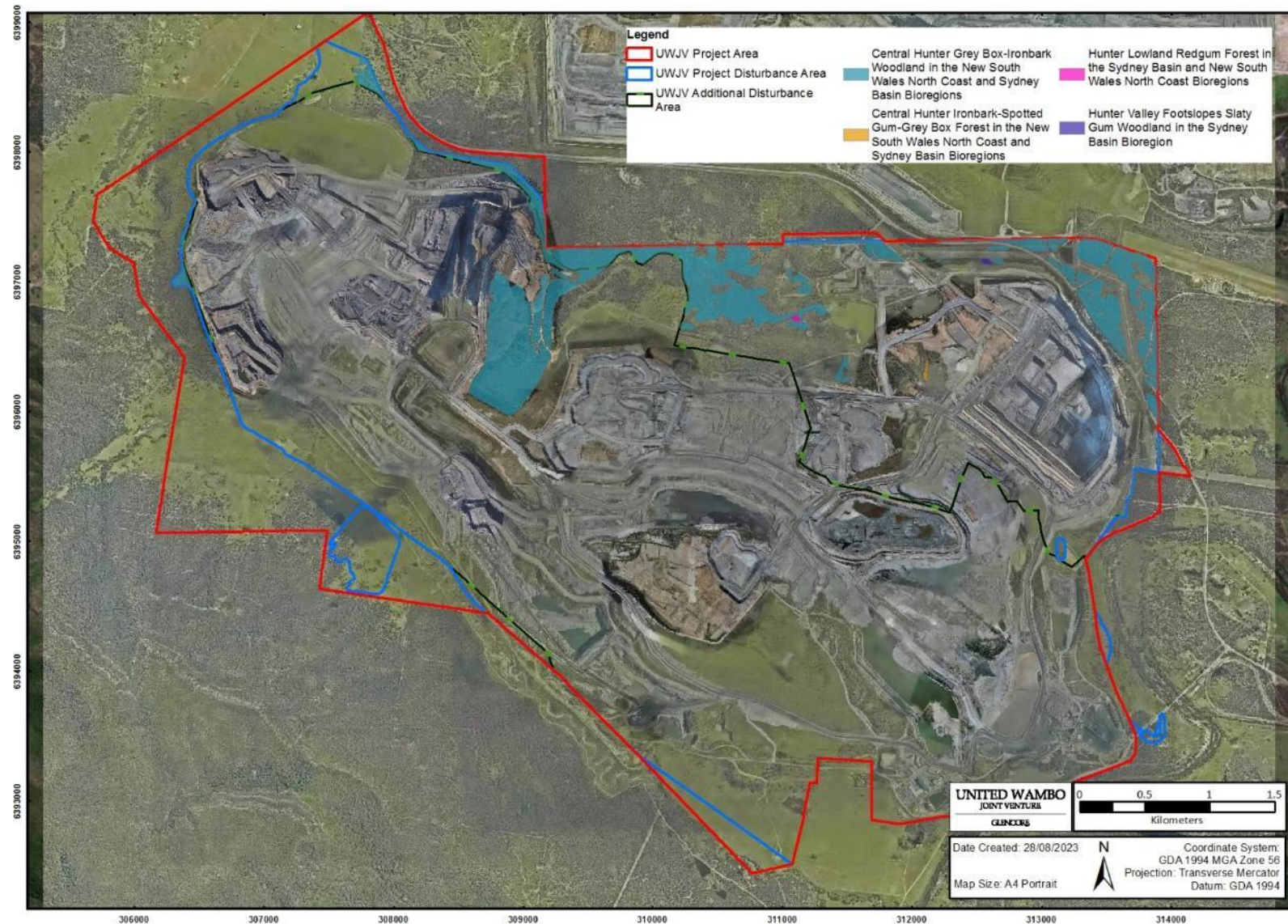


Figure 3-3: Threatened Ecological Communities Listed under the Biodiversity Conservation Act

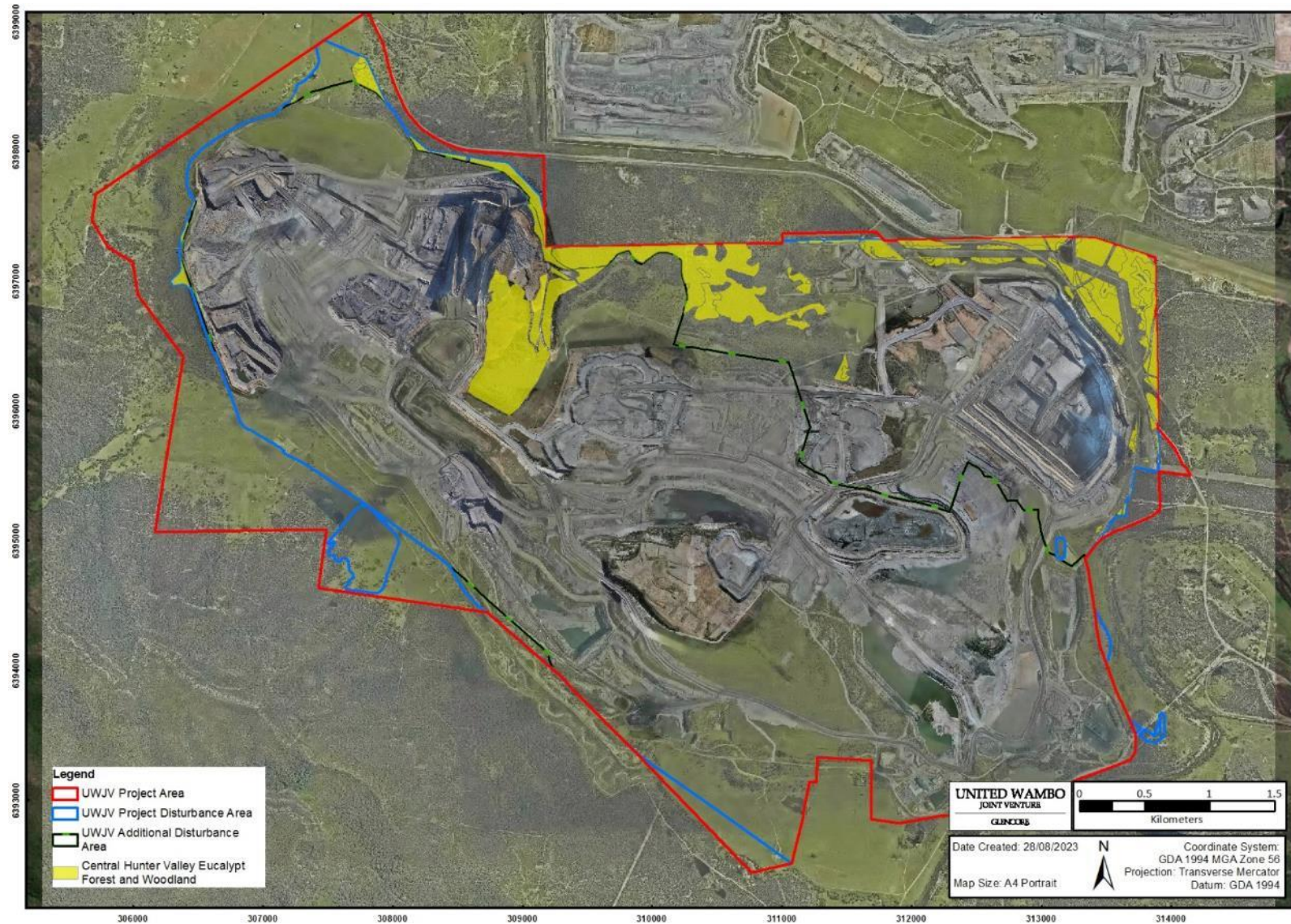


Figure 3-4: Central Hunter Valley Eucalypt Forest and Woodland CEEC under the EPBC Act

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Within the footprint of the former Wambo Open Cut, there was 99 hectares of native vegetation that was approved for disturbance under **DA 305-7-2003**. This vegetation has been mapped as Narrow-leaved Ironbark – Grey Box Woodland, which conforms to the threatened ecological communities *Central Hunter Grey Box – Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions* (BC Act) and *Central Hunter Valley Eucalypt Forest and Woodland CEEC* (EPBC Act). The approval and offsetting of this disturbance has been accounted for under **DA 305-7-2003**. Impacts on this vegetation will be managed in accordance with the management and mitigation measures detailed in **Section 4.3**.

All other areas not mapped as part of a vegetation zone were cleared land, heavily disturbed areas or non-native. Cleared land comprised disturbed land, grassland rehabilitation areas, woodland rehabilitation areas with poor or absent understorey and groundcover layers, mixed species revegetation planation and water bodies. There was a total of 146.67 hectares mapped within the development footprint.

A full description of the vegetation communities present within the site is included in **Section 3.2.1** of the **Biodiversity Assessment Report** (refer to Appendix 4 of the RTS).

### 3.2.2 Threatened Species Abundance and Distribution

In accordance with the FBA methodology, species are categorised as either ecosystem-credit species or species-credit species, which are defined as:

- ecosystem-credit species: species that can be reliably predicted to occur in PCTs and have high likelihood of occurring on site, therefore, targeted surveys are not required; or
- Species-credit species: species that cannot be reliably predicted based on a PCT, distribution or otherwise on the site. Targeted surveys are required to determine their presence or otherwise on site.

#### 3.2.2.1 Ecosystem-Credit Species

The ecosystem-credit species recorded within the Additional Disturbance Area during surveys undertaken for the Biodiversity Assessment Report, Atlas of NSW Wildlife records or previous surveys are listed in **Table 3-3** and illustrated in **Figure 3-5**.

Table 3-3: Ecosystem-Credit Species

| Species Name                                                                   | BC Act     | EPBC Act |
|--------------------------------------------------------------------------------|------------|----------|
| Diamond firetail - <i>Stagonopleura guttata</i>                                | Vulnerable | -        |
| East coast freetail-bat - <i>Mormopterus norfolkensis</i>                      | Vulnerable | -        |
| Glossy black-cockatoo - <i>Calyptorhynchus lathami</i>                         | Vulnerable | -        |
| Greater broad-nosed bat - <i>Scoteanax rueppellii</i>                          | Vulnerable | -        |
| Grey-crowned babbler - <i>Pomatostomus temporalis</i> subsp. <i>temporalis</i> | Vulnerable | -        |
| Hooded robin - <i>Melanodryas cucullata</i> subsp. <i>cucullata</i>            | Vulnerable | -        |
| Speckled warbler - <i>Chthonicola sagittata</i>                                | Vulnerable | -        |

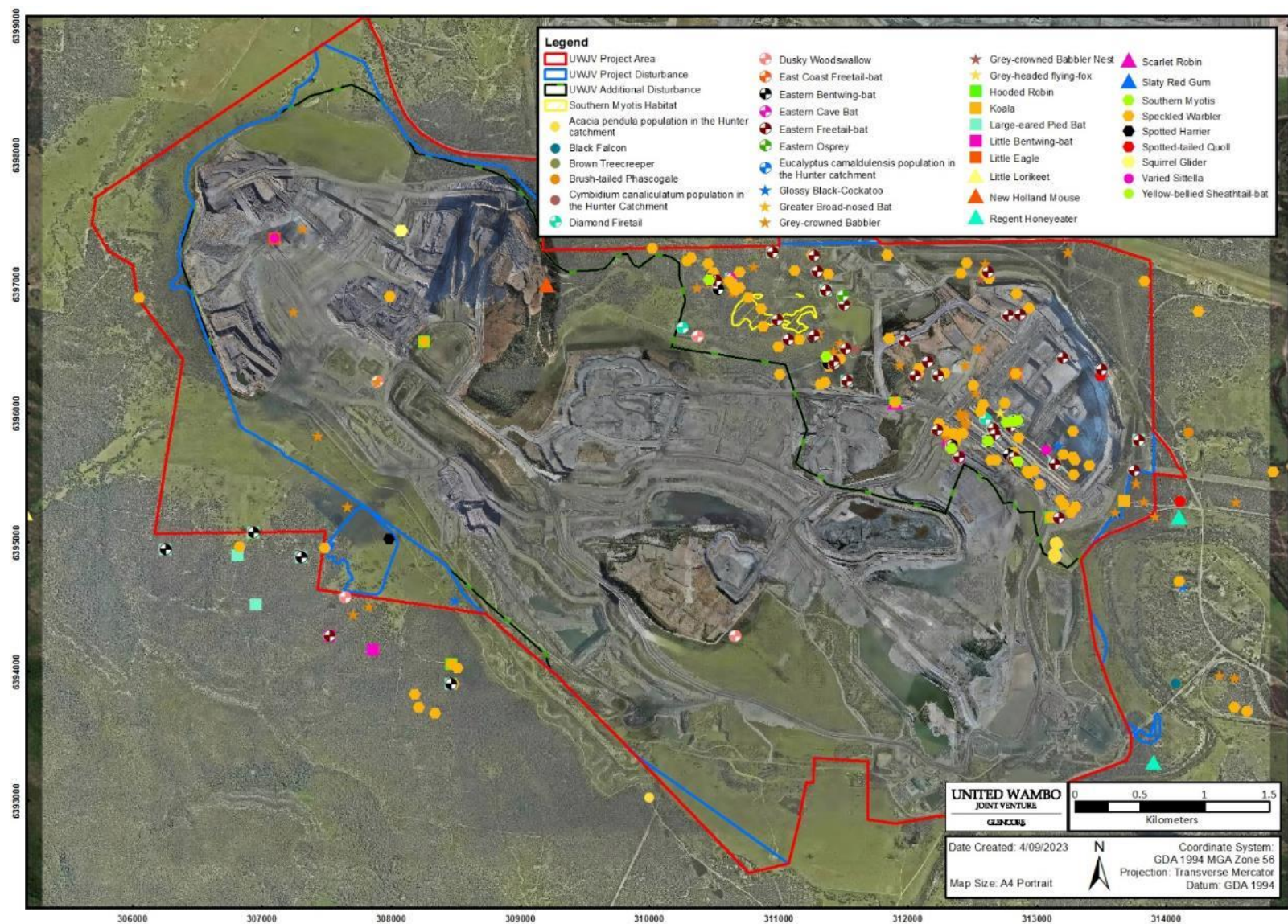


Figure 3-5: Threatened Ecosystem and Species-Credit Species at United Wambo

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| Species Name                                                     | BC Act     | EPBC Act   |
|------------------------------------------------------------------|------------|------------|
| Spotted-tailed quoll - <i>Dasyurus maculatus</i>                 | Vulnerable | Endangered |
| Varied sittella - <i>Daphoenositta chrysoptera</i>               | Vulnerable | -          |
| Yellow-bellied sheath-tail-bat - <i>Saccolaimus flaviventris</i> | Vulnerable | -          |

### 3.2.2.2 Species-Credit Species

Two species-credit species have been recorded in the United Wambo site. These species are outlined in **Table 3-4** and illustrated in **Figure 3-5**.

Table 3-4: Species-Credit Species Recorded Within the United Wambo Project Area

| Species Name                               | Impacted by the Project | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eastern osprey<br><i>Pandion cristatus</i> | No                      | The single record of the eastern osprey occurs in the United Wambo site. This species was observed roosting in a tree during spotlighting surveys. The OEH Atlas of NSW Wildlife does not contain any other eastern osprey records within 10 kilometres of the site. The nearest records on the BCD Atlas of NSW Wildlife are approximately 60 kilometres to the east of the site. The species usually prefers coastal areas, especially the mouths of large rivers, lagoons and lakes and it feeds on fish over clear, open water. Any individuals of this species recorded in the Hunter Valley are considered to be vagrants. Therefore, it is considered that the site does not provide foraging habitat for this species. |
| Southern myotis<br><i>Myotis macropus</i>  | Yes                     | Southern myotis has been recorded on three occasions within the United Wambo site. The BCD Atlas of NSW Wildlife contains a total of four records within 10 kilometres of the site. This species roosts close to water in caves, bridges, culverts, hollow-bearing trees and other structures. A total of 7.3 hectares of potential breeding habitat, which occurs within a 200-metre buffer of Redbank Creek, has been identified for this species within the Additional Disturbance Area.                                                                                                                                                                                                                                    |

### 3.2.3 Migratory Species Abundance and Distribution

The EIS identified a total of 12 species listed as Migratory under the EPBC Act and listed under international conventions as having the potential to occur within 10 kilometres of the site following a review of the DoEE Protected Matters Database. **Table 3-5** lists the species that were identified by the Protected Matters Database, and their likelihood of occurrence.

Table 3-5: Migratory Species with the Potential to Occur

| Scientific Name                                   | Common Name | International Convention |
|---------------------------------------------------|-------------|--------------------------|
| <b>Species or Species' Habitat Known to Occur</b> |             |                          |
| <i>Ardea alba</i>                                 | Great egret | JAMBA                    |

| Scientific Name                                    | Common Name               | International Convention    |
|----------------------------------------------------|---------------------------|-----------------------------|
| <i>Monarcha melanopsis</i>                         | Black-faced monarch       | Bonn                        |
| <i>Hirundapus caudacutus</i> *                     | White-throated needletail | CAMBA, JAMBA, ROKAMBA       |
| <i>Myiagra cyanoleuca</i>                          | Satin flycatcher          | Bonn                        |
| <i>Rhipidura rufifrons</i>                         | Rufous fantail            | Bonn                        |
| <b>Species or Species' Habitat Likely to Occur</b> |                           |                             |
| <i>Apus pacificus</i>                              | Fork-tailed swift         | CAMBA, JAMBA, ROKAMBA       |
| <i>Pandion cristatus</i> *                         | Eastern osprey            | Bonn                        |
| <b>Species or Species' Habitat May Occur</b>       |                           |                             |
| <i>Gallinago hardwickii</i>                        | Latham's snipe            | Bonn, JAMBA, ROKAMBA        |
| <i>Merops ornatus</i> *                            | Rainbow bee-eater         | JAMBA                       |
| <i>Ardea ibis</i>                                  | Cattle egret              | JAMBA                       |
| <i>Motacilla flava</i>                             | Yellow wagtail            | CAMBA, JAMBA, ROKAMBA       |
| <i>Tringa nebularia</i>                            | Common greenshank         | Bonn, CAMBA, JAMBA, ROKAMBA |

\* Species has been recorded in the Project Area

### 3.2.4 Groundwater Dependent Ecosystems Decline

#### 3.2.4.1 Potential GDEs Within the Additional Disturbance Area

Potential groundwater dependent ecosystems (GDEs) within the Additional Disturbance Area, as identified in the EIS, comprise the following vegetation types:

- Swamp Oak – Weeping Grass Grassy Riparian Forest (vegetation zone 11); and
- Forest Red Gum Grassy Open Forest on Floodplains (vegetation zone 2).

Both occur in a patchy distribution along Redbank Creek. The remaining vegetation types within the riparian zone (e.g. grassland communities) are unlikely to be GDEs.

The two potential GDEs will be removed within the Project Additional Disturbance Area as part of mining operations at United Wambo.

#### 3.2.4.2 Potential GDEs Outside of the Additional Disturbance Area

The Groundwater Impact Assessment for the mine identified two areas within the zone of cumulative drawdown that have been labelled for the purpose of the groundwater impact assessment as GDE1 and GDE2 (refer to **Figure 3-6**).

Potential GDEs occurring at GDE1 include areas of Central Hunter Swamp Oak Forest and a small number of River Red Gum trees along Redbank Creek, areas of Hunter Valley River Oak Forest, some River Red Gum trees and Hunter Floodplain Redgum Woodland Complex along Wollombi Brook.

Potential GDEs occurring at GDE2 include areas of Hunter Valley River Oak Forest.

GDE 1 and GDE 2 will be impacted by groundwater level due to cumulative impacts from mining (nearby operations and United Wambo).

Baseline vegetation condition monitoring has been undertaken prior to mining and further condition monitoring will be triggered by measurable impacts on alluvial groundwater levels in the vicinity of the GDEs that are attributable to the mine. The GDE Monitoring Program is described in detail in the ***United Wambo Groundwater Management Plan***.

#### 3.2.4.3 Stygofauna

An assessment of the presence and potential impacts on stygofauna communities within the aquifers surrounding United Wambo was undertaken by Stygoecologia. The assessment was completed in accordance with the *Risk Assessment Guidelines* for Groundwater Dependent Ecosystems (Serov et al. 2012). The assessment showed that stygofauna exist in small, isolated populations within the shallow alluvial aquifers in the area surrounding the site, including those associated with Wollombi Brook and North Wambo Creek.

The relative consistency of the stygofauna community composition between the bores and aquifers surveyed indicates connectivity within the shallow alluvial aquifers and consistency in the environmental conditions of this aquatic ecosystem. The biodiversity of the stygofauna community across the alluvial aquifers was found to be high with hotspots of biodiversity that potentially have a high degree of endemism.

United Wambo has undertaken monitoring of stygofauna in the alluvial aquifers within (or near to, subject to bore suitability) the predicted drawdown areas prior to the commencement of mining and in 2022 and will continue to monitor every three years. The Stygofauna Monitoring Program is described in the ***United Wambo Groundwater Management Plan***.

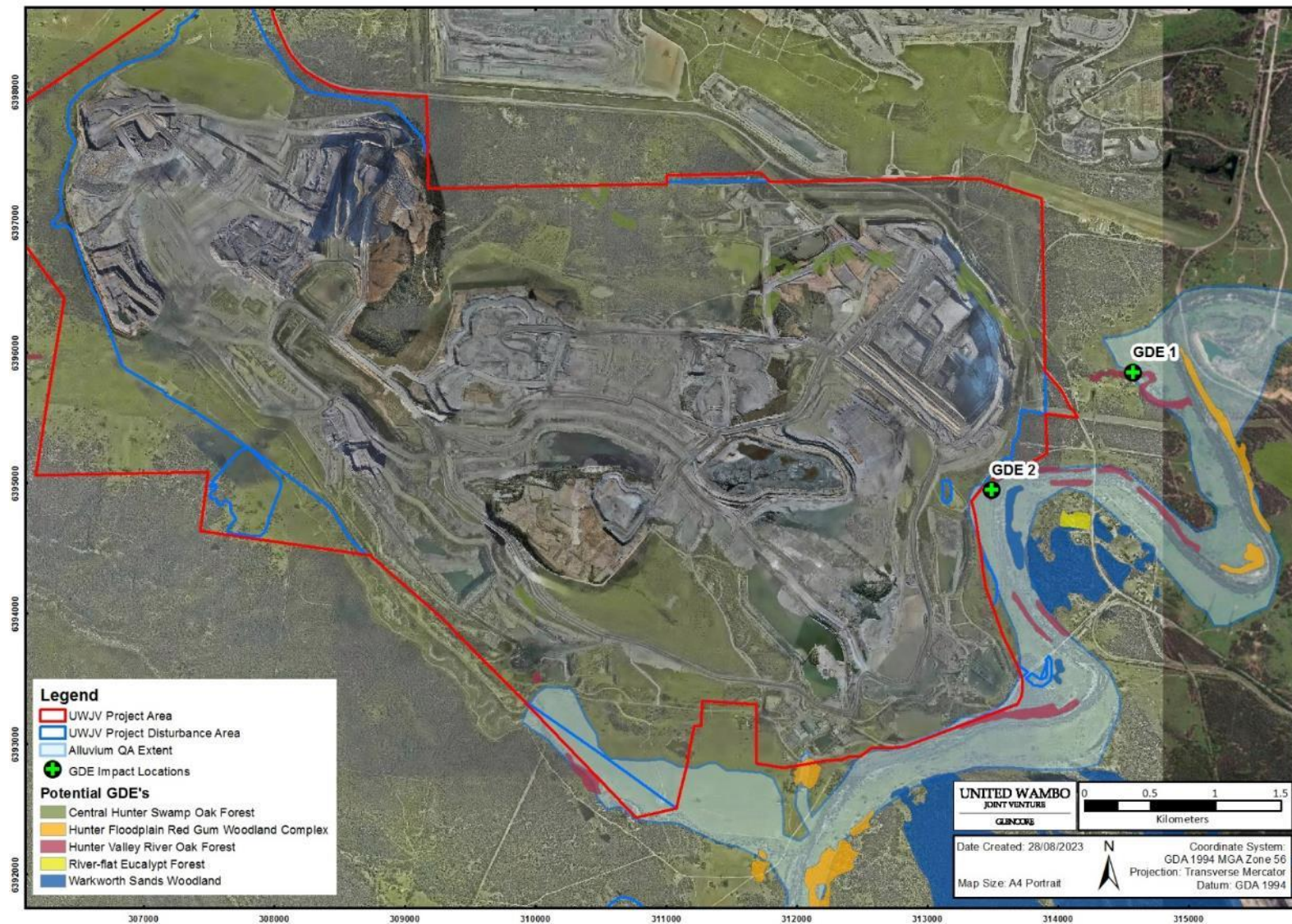


Figure 3-6: GDE Locations

Number: UWOC-1689771511-368  
 Owner: Environment & Community Manager

Status: Approved  
 Version: 7.0

Effective: 6/02/2023  
 Review: 6/02/2026

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### 3.2.5 Indirect Impact Management

Section 8.4.1.4 (f) of the FBA relates to onsite avoidance and minimisation measures required for consideration for impacts related to the operational phase of the Project. Section 4.2 of the FBA report outlines the mitigation measures proposed for the Project to manage indirect impacts on threatened flora and fauna species, in particular swift parrot, regent honeyeater, spotted-tail quoll and koala. Where relevant, these are expanded upon below.

#### Unauthorised Impacts to Native Vegetation and Species Habitat

Impacts to native vegetation and species habitat will be managed through the United Wambo Ground Disturbance Permit (GDP) process. United Wambo will implement specific controls as required and as documented in the GDP.

#### Trampling of Threatened Flora Species

No threatened flora species are known to occur in the approved disturbance area. It is unlikely that any threatened flora species would be trampled during the operational phase of the mine.

The *Acacia pendula* endangered population located south of the site has been excluded from the approved disturbance area. Management of this endangered population is detailed in **Section 4.3**.

#### Rubbish Dumping

During the operational phase of the mine, rubbish dumping will be unlikely to occur as suitable fencing and other security measures will be installed to ensure restrictions to access in retained vegetation areas. Employee education and training will enforce awareness and stewardship of the mine site by employees and contractors. United will implement rubbish collection and management facilities in accordance with the ***United Wambo Waste Management Plan***.

#### Noise

During the operational phase of the mine, a range of noise reduction actions will be undertaken in accordance with the ***United Wambo Noise Management Plan***, including noise attenuation on plant and equipment, use of 'silent horns', real-time monitoring with response procedures in place to assist to manage noise with approved noise criteria and designing emplacement areas to create sheltered emplacement locations to minimise noise. These controls will all serve to minimise noise impacts on fauna.

#### Light Spill

Appropriate lighting controls to minimise impacts will be implemented as part of the mine, including minimisation of fugitive lighting emissions following Australian Standards.

#### Weed encroachment

Weed species could be inadvertently brought into the site with imported materials or could invade naturally through removal of native vegetation. Weed control will be undertaken in accordance with **Section 4.3**.

#### Feral Animal Encroachment

Introduced fauna species such as foxes, rabbits, pigs, dogs and feral cats could change in distribution and abundance on the site and adjoining areas as future areas are cleared, mined and then rehabilitated. Pest and feral animal control will be undertaken in accordance with **Section 4.3**.

#### Erosion and Nutrient Runoff

The ***United Wambo Surface Water Management Plan*** and ***United Wambo Erosion and Sediment Control Plan*** is to be utilised during the construction and operation phases of the mine will be

prepared that is consistent with the requirements of ***Managing Urban Stormwater: Soils and Construction*** – Volume 1 and Volume 2E Mines and Quarries, or its latest version. These plans will be part of a broader Water Management Plan that will identify the water management controls to be implemented as part of the mine, including controls to minimise nutrient runoff.

#### Increased Risk of Fire

The vegetation that will be retained within the site will require appropriate bushfire management to protect life and property, while supporting appropriate conditions for the significant ecological features identified in the site as per ***Section 4.3***.

#### Blasting and Vibration

The ***United Wambo Blast Management Plan*** outlines the controls and management measures implemented across the site to limit overpressure and vibration impacts from blasting activities. These controls will serve to reduce the impacts, particularly of overpressure, on surrounding fauna.

#### Dust and Air Quality

The ***United Wambo Air Quality and Greenhouse Gas Management Plan*** details the dust management controls utilised at United Wambo including the use of water carts, modification of operations in adverse weather conditions and progressive rehabilitation.

### 3.3 Biodiversity Criteria and Performance Metrics

There are no biodiversity related criteria or performance metrics specified in ***SSD 7142***. Criteria related to the BSAs described in ***Section 4.5*** are detailed in the individual BSA Management Plans and include criteria related to vegetation establishment, condition improvement and weed cover reduction.

The Commonwealth approval EPBC 2015/7600 states that United Wambo must not clear more than:

1. 203.7 hectares of Regent Honeyeater (*Anthochaera Phrygia*) habitat;
2. 203.7 hectares of Swift Parrot (*Lathamus discolor*) habitat;
3. 352.9 hectares of Spotted-tail quoll (*Dasyurus maculatus maculatus*) habitat; and
4. 246.8 hectares of the Central Hunter Valley Eucalypt Forest and Woodland ecological community.

In addition, internal targets are developed as part of annual planning (***EM Strategy Section 3.6***), which inform operational management, and ensure that obligated criteria and performance metrics are complied with.

### 3.4 Requirements of this Plan

United Wambo operations and support teams undertake consistent approaches to ensure that all approvals and licences are obtained and managed in accordance with conditions. ***Section 3.4*** outlines those approvals, licences and other regulatory requirements on applicable to United Wambo, obligations are added to the compliance management system to ensure compliance is managed.

#### 3.4.1 Statutory Requirements

##### 3.4.1.1 Development Consent

United Wambo received Development Consent (***SSD 7142***), in accordance with Part 4 of the ***Environmental Planning & Assessment Act 1979 (EP&A Act)***, from the NSW Independent Planning Commission (IPC) on 29 August 2019. SSD 7142 was modified on 25 November 2021 to allow for the

increase in storage for ROM coal stockpiles. There were no changes to the management of biodiversity as part of the modification. Conditions within **SSD 7142** and supporting documents are provided in **Appendix A** -.

#### 3.4.1.2 EPBC Approval 2015/7600

United Wambo received Controlled Action Approval 2015/7600, issued by the Commonwealth Department of Environment and Energy (DoEE) under the authority of the EPBC Act. Conditions within EPBC 2015/7600 that regulate biodiversity management at the United Wambo JV project are provided in **Appendix A** -. Offsetting matters relating to EPBC Act issues are detailed in **Section 4.5.3**.

### 3.4.2 Other Approvals / Legislation Requirements

There are a number of statutory requirements under both State and Federal legislation which apply to the operations of the Project. United Wambo will apply to the relevant regulators for all required approvals and licences. The planning and environmental legislative framework which United Wambo must operate within, is detailed in Section 4 of the EIS (located on the United Wambo website): (<https://www.glencore.com.au/.rest/api/v1/documents/3bde49b0581024055f46289487f747d4/United-Wambo-Project-EIS-Main-Text.pdf>)..

## 3.5 Preparation and Implementation of this Plan

### 3.5.1 Preparation

#### 3.5.1.1 Suitably Qualified Person

United Wambo engaged a suitably qualified and experienced person to prepare the initial BioMP for the site, in accordance with Condition B71 (a) of SSD 7142. The Plan was prepared in accordance with relevant statutory requirements (including approvals and EIS commitments) and was approved by the then NSW Department of Planning, Industry and Environment (DPIE, now NSW Department of Planning, Housing and Infrastructure (DPHI)) on 11 November 2019. A copy of the approval is attached in **Appendix B** -.

In recognition of the requirements of Condition B71 (a) of SSD 7142, the draft BioMP prepared by United Wambo has been reviewed by suitably experienced and qualified ecologists at Umwelt. The detailed review of the BioMP has been undertaken by Principal Ecologist and Accredited BAM Assessor Alaina Casey.

#### 3.5.1.2 Stakeholder Consultation

As required by Condition B71 (b) of SSD 7142, previous versions of this BioMP has been prepared in consultation with the Biodiversity & Conservation Division (BCD) within the Department of Planning and Environment (DPE).

Feedback and correspondence in relation to previous versions of the BioMP is provided in **Appendix C** -.

United Wambo will continue to consult with BCD prior to the submission of the BioMP to DPHI for approval.

When revisions of this BioMP occur, the revised BioMP must be submitted to the Department of Climate Change, Energy, the Environment and Water (DCCEEW), unless the changes to the document would not be likely to have a new or increased impact. Where this is the case, United Wambo must still notify DCCEEW of the change in accordance with Condition 22 of **EPBC 2015/7600**.

### 3.5.1.3 BioMP Hold Points

The BioMP was reviewed and revised (when applicable) in accordance with the following hold points of SSD 7142:

- prior to the commencement of Phase 1B and approved by Department of Planning and Environment ((DPE), now DPHI) on 11 November 2019. Phase 1B commenced on 17 July 2020;
- Within 12 months of commencing Phase 1B, was to make arrangements for the long-term protection of 18.5 hectares of compensatory habitat to account for disturbing the previous compensatory habitat area for United Underground Coal Mine (DA 410-11-2002-i).
- prior to the commencement of Phase 2 and approved by DPE on 19 November 2020. Phase 2 commenced on 1 December 2020; and
- after the approval of MOD1, in accordance with the DPE MOD1 Assessment Report (DPE, 2021).

Further details on these revisions are included in the change information table in Section 9.3

### 3.5.2 Implementation

United Wambo will implement the approved BioMP, in accordance with relevant statutory requirements (including approvals and EIS commitments).

A copy of the currently approved BioMP is publicly available on the United Wambo website. The approval letter from DPHI is included in **Appendix D** -.

## 4. Implementation

### 4.1 Training and Awareness

Effective implementation and maintenance of this plan depends on the competency of the United Wambo Workforce and its Contractors. The ability of non-ecological personnel to identify key threatened species or key ecological threats can help to mitigate impacts on threatened species. Improved awareness and stewardship of mine site employees and contractors can potentially benefit all flora and fauna species and vegetation communities

Training in relation to biodiversity is provided to relevant personnel in accordance with the site Training Needs Analysis and the **United Wambo EM Strategy**. For further details, refer to the **United Wambo EM Strategy**.

### 4.2 Response Mechanisms and Strategies

#### 4.2.1 Proactive Mechanisms

Proactive biodiversity management involves the planning of activities in advance of potentially adverse conditions. Specifically, proactive biodiversity management includes:

- implementation of procedures to prevent the un-necessary impact to biodiversity
- modification of planned mining activities, as appropriate, to minimise impacts; and

- discussion of work area considerations prior to commencing activities.

## 4.2.2 Reactive Mechanisms

### 4.2.2.1 Biodiversity Trigger Action Response Plan

There are a number of potential risks, or situations where performance indicators and completion criteria may not be achieved. A Trigger Action Response Plan (TARP) has been developed to identify required actions and adaptive management in the event of potential impacts to biodiversity conservation objectives of this BioMP (refer to **Table 4-1**). This is adapted from Rawlings et al (2010).

*Table 4-1: Biodiversity Trigger Action Response Plan*

| Management Aspect          | Key Element                      | Trigger                                                                                 | Potential Corrective Action                                                                                                                                                                                                                                                                                                               |
|----------------------------|----------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General Management</b>  | Protection of remnant vegetation | Unauthorised stock access                                                               | Identify access points and repair fences appropriately.<br><br>Communicate with agricultural managers and adjacent landholders to emphasise areas where stock is not permitted.                                                                                                                                                           |
|                            | Weed management                  | Infestations of noxious and environmental weeds are increasing, or new species detected | Adapt weed management plan and modify strategies accordingly.<br><br>Ensure that weed densities in rehabilitation/regeneration areas are no worse than those in remnant vegetation (analogue) sites.<br><br>Ensure that there are no significant weed infestations that are identified as a risk to rehabilitation or regeneration areas. |
|                            | Feral fauna management           | Infestations of pest animals are increasing, or new species detected                    | Adapt pest management plan and modify strategies accordingly.                                                                                                                                                                                                                                                                             |
|                            | Pathogens                        | Signs of <i>Phytophthora cinnamomi</i> are identified during ecological monitoring      | Commission suitably qualified personnel to undertake pathogen control works.<br><br>Ensure any vehicles and equipment that may have come into contact with contaminated equipment is appropriately cleaned.                                                                                                                               |
|                            | Complaints                       | Community complaint in relation to management of the biodiversity stewardship sites     | Complaints to be handled in accordance with the <i>United Wambo Complaints Management Procedure</i> .                                                                                                                                                                                                                                     |
| <b>Habitat Enhancement</b> | Habitat salvage                  | Habitat features salvaged are damaged during salvage or during stockpiling              | Investigate machinery and equipment currently being used to salvage and translocate habitat features. Update protocols based on findings.<br><br>Investigate adequacy of storage emplacement areas of features. Revise locations if necessary.                                                                                            |
| <b>Bushfire Management</b> | Bushfire management              | Unplanned bushfire event occurs                                                         | Review procedures in place and update Bushfire Management Plan based on findings.                                                                                                                                                                                                                                                         |

| Management Aspect | Key Element              | Trigger                                                     | Potential Corrective Action                                                                                                                                           |
|-------------------|--------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |                          |                                                             | Monitor plant succession after bushfire event.                                                                                                                        |
|                   | Emergency vehicle access | Tracks are in a poor condition for emergency vehicle access | Slash vegetation on existing tracks (with due diligence inspection prior if track vegetation is greater than 1m in height).<br><br>Undertake track remediation works. |

## 4.3 Mitigation and Management Measures

United Wambo has identified a number of specific management and mitigation strategies to minimise and alleviate the potential impacts to biodiversity at United Wambo, as well as protect and enhance the native vegetation and species habitat within the BSSs. Specific details on these measures are outlined in the following sections.

These management and mitigation measures are specific and applicable to the United Wambo mine area and not the Wambo surface development, and have been developed in consideration with UHSA Guidelines for the Mitigation of Coal Mining Impacts on Biodiversity. The impact mitigation strategy will address the following key elements:

- landform establishment
- implementation of clearing procedures to minimise the impacts of the clearing process and maximise the recovery of any valuable biodiversity resources (e.g. seed collection, re-use of hollow logs and tree hollows where appropriate)
- feral animal and noxious weed control and pathogen management
- fencing and access control (including domestic stock)
- bushfire management

Implementation of the mitigation measures identified in **Table 4-2** ensures United Wambo are taking reasonable steps to:

- Minimising impacts to flora and fauna wherever possible
- Implementing clearing procedures to minimise the impacts of the clearing process and maximise the recovery of any valuable biodiversity resources (e.g. seed collection, re-use of hollows)
- Avoiding direct impacts and retaining habitat features
- Implementing appropriate environmental management measures as part of the mining operations to minimise the potential for indirect impacts
- Mitigating or ameliorating impacts, as a last resort, including compensating or offsetting for any unavoidable significant residual impacts
- Undertaking training of key employees regarding the key biodiversity mitigation and management measures relevant to the work they undertake

Instances where a biodiversity impact and associated management measure is applicable to another environmental or community aspect, the control measures and procedures may be detailed in that applicable management plan. The following management plans cross-over with the BioMP:

- **Blast Management Plan:** blast related fume, vibrations and odour emissions from the operation;
- **Noise Management Plan:** noise generated by the operation.
- **Air Quality and Greenhouse Management Plan:** dust and greenhouse gas emissions from the operation
- **Water Management Plan (including subplans):** management of water management systems that seek to minimise the potential for damage to flora and fauna and their habitats from erosion and unnatural flooding events
- **Waste Management Plan:** the collection and removal of waste
- **Bushfire Management Plan:**
  - exclusion of planned bushfire from revegetation and regeneration areas to allow replanted and regenerating communities to mature to a stage where they are able to withstand bushfire and regenerate naturally following such an event;
  - consideration of the sensitivities of threatened species and threatened ecological communities to bushfire and appropriate bushfire planning and management in relation to known occurrences of these;
  - asset protection; and
  - appropriate incorporation of all relevant ecological requirements into bushfire management plans.; and
- **Social Performance Management Plan (SPMP):** consultation with stakeholders regarding biodiversity impacts.

Table 4-2: Biodiversity Management Measures

| Control Type                           | Impact Type | Management Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Trigger/Evidence                | Responsibility          |
|----------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------|
| <b>Mine Planning</b>                   | All         | United Wambo will implement landform establishment for the protection and preservation of ecological features of the project area.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Weekly Planning, 3-Monthly, LOM | Tech Services           |
| <b>Disturbance/Vegetation Clearing</b> |             | <p>United Wambo will implement ground disturbance approval processes to minimise impacts to, and maximise the recovery of, any valuable biodiversity resources. This includes:</p> <ul style="list-style-type: none"> <li>• pre-clearance surveys</li> <li>• habitat felling procedures, including handling and transport of native fauna</li> <li>• biodiversity resource management (soils, habitat trees)</li> </ul> <p>Further information on the Ground Disturbance/Land Clearing process is provided in Section 4.3.1.</p>                                                                                                                                                                                                                                                                                                           | Procedure / Work Records        | Environment & Community |
| <b>Vegetation Conservation</b>         |             | United Wambo will avoid direct impacts on the 0.1 hectare stand of Hunter Valley Weeping Myall Woodland within the Project Area. The stand will be managed for the recovery of the community and will be fenced to exclude grazing stock and unauthorised intrusions (with a 20 metre buffer between the stand and the fence).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                 | Environment & Community |
| <b>Livestock Management</b>            |             | <p>United Wambo will manage domestic stock for the protection and preservation of ecological features of the project area. Domestic stock may be strategically grazed in parts of the Project Area to reduce weed species or to manage fuel loads for bushfire risk. Stock grazing mitigation measures will be implemented in accordance with EIS commitments to manage the impacts of domestic stock. Areas of potential grazing are shown in <b>Figure 4.1</b></p> <p>United Wambo will implement fencing and access controls for the protection and preservation of ecological features of the project area. If new fencing used within the Project Area adjacent to native vegetation areas is required, where possible, the use of as few wire strands as practical will be considered to reduce potential for fauna entanglement</p> | Photos / Work Records           | Environment & Community |

| <b>Control Type</b>        | <b>Impact Type</b> | <b>Management Measure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Trigger/Evidence</b>       | <b>Responsibility</b>   |
|----------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------|
| <b>Bushfire Management</b> |                    | <p>United Wambo will implement bushfire management for the project area and will include the application of fire research knowledge to generate ecological outcomes through the appropriate use of fire as an ecological management tool.</p> <p>Use of fire as a tool for ecological management may improve the outcomes of weed control and biodiversity enhancement activities. However, due to the young age of most remnant vegetation and rehabilitation areas within the site, controlled burns are not currently planned for management purposes.</p>                                                                                                                                                                                                                                                                                                                                                            | Strategy / Work Records       | Environment & Community |
| <b>Pathogen Management</b> |                    | <p>United Wambo will implement pathogen management mitigation strategies for the protection and preservation of ecological features of the project area. This includes:</p> <ul style="list-style-type: none"> <li>Commissioning suitably qualified personnel to undertake pathogen control works.</li> <li>Ensure any vehicles and equipment that may have come into contact with contaminated equipment is appropriately cleaned.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Strategy / Monitoring Reports | Environment & Community |
| <b>Weed Management</b>     |                    | <p>Due to the history of prior mining activities and disturbance on the United Wambo site, weed species are present throughout both the remnant vegetation and disturbed / rehabilitated areas. Weed species could be inadvertently brought onto the site with imported materials or could invade naturally through removal of native vegetation. The presence of weed species has the potential to be an impediment to rehabilitation outcomes.</p> <p>United Wambo has prepared a schedule of land management activities for the disturbed areas of the site, which includes weed and vegetation control at appropriate times of the year. Any non-routine weed control requirements within the disturbed areas of the site will be identified through regular environmental inspections.</p> <p>The identification and management of weeds within the BSS's are addressed in the individual BSS Management Plans.</p> | Strategy / Monitoring Reports | Environment & Community |

| <b>Control Type</b>                         | <b>Impact Type</b> | <b>Management Measure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Trigger/Evidence</b>              | <b>Responsibility</b>              |
|---------------------------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------|
| <b><i>Pest and Feral Animal Control</i></b> |                    | <p><i>The objective of pest animal control at United Wambo is to reduce and, where possible, eliminate declared vertebrate pest species, through an integrated approach involving a combination of chemical and physical control methods. Assessment for the presence of vertebrate pests is to be undertaken as part of:</i></p> <ul style="list-style-type: none"> <li><i>the ongoing rehabilitation monitoring program;</i></li> <li><i>routine on-site inspections; and</i></li> <li><i>opportunistic sightings by any personnel</i></li> </ul> <p><i>Pest animal control will be undertaken in consideration of the control recommendations outlined in the Department of Primary Industries Vertebrate Pest Control Manual (DPI 2014), the NSW Codes of Practices (COPs) and Standard Operating Procedures (SOPs) and recommendations in relevant Government - Threat Abatement Plans (TAP)</i></p> <p><i>Further information on pests at United Wambo are covered in <b>Section 4.3.2</b></i></p> | <i>Strategy / Monitoring Reports</i> | <i>Environment &amp; Community</i> |

### 4.3.1 Land Clearing

Prior to any ground disturbing activities, a Ground Disturbance Permit (GDP) will be required to be approved by the Environment and Community Department, Mine Surveyor and task coordinator. The purpose of the GDP is to ensure that the required environmental approvals have been received and appropriate environmental management controls have been implemented prior to the commencement of work. Controls outlined on the GDP are to be implemented before any ground disturbing activities may commence.

#### 4.3.1.1 Pre-Clearance Surveys

Pre-clearance surveys are required to be undertaken before areas of remnant native vegetation (including grasslands, shrublands and open woodlands) are to be cleared. The surveys are to be undertaken by suitably qualified and experienced personnel in accordance with the United Wambo Pre-Clearing Survey and Habitat Tree Felling Procedure (**Appendix E - United Wambo Pre-Clearing Survey and Habitat Tree Felling Procedure**).

The United Wambo Pre-Clearing Survey Form (**Appendix F - United Wambo Pre-Clearing Survey Form**) has been developed to minimise the impact of clearing on native species (both threatened and non-threatened), as well as significant habitat features. The pre-clearance survey aims to identify significant ecological features within areas to be cleared and provide recommendations to minimise the impact of the clearing on them.

The purpose of the pre-clearance survey is to:

- identify and mark habitat trees;
- identify habitat resources for salvage (hollow-bearing logs etc.);
- identify presence of any threatened flora and fauna;
- identify potential seed collection resources; and
- identify any requirements for weed control to be undertaken prior to clearing.

Following the completion of the pre-clearance inspection, the tree felling procedure (**Section 4.3.1.2**) is to be followed.

Any threatened flora species found during pre-clearance surveys should be propagated or translocated to appropriate locations in nearby offset sites, where practicable.

Prior to disturbance, a review of Aboriginal heritage values will also be undertaken. This will be undertaken in accordance with the **United Wambo Aboriginal Heritage Management Plan**.

#### 4.3.1.2 Habitat Tree-Felling

The United Wambo Habitat Pre-Clearing Survey and Habitat Tree Felling Procedure will be implemented to minimise the potential for impacts on native fauna species (including threatened species) as a result of the clearing of hollow-bearing trees (see **Appendix E - United Wambo Pre-Clearing Survey and Habitat Tree Felling Procedure**). The procedure details the necessary pre-clearing activities, requirements during clearing operations and post-clearing requirements. The procedure includes the following requirements:

- removal of non-hollow bearing trees/vegetation as close to the hollow-bearing tree felling date as practicable (in order to discourage fauna usage of the area). It is not necessary for the suitably qualified and experienced person to be present to supervise the felling of non-habitat trees;
- hollow-bearing tree felling procedures, including (but not limited to):

- supervision of all hollow-bearing tree felling works by a suitably qualified and experienced person;
- visual canopy inspection on the day of the felling of hollow-bearing trees to check for individual animals in the canopy;
- shaking of hollow-bearing tree (with heavy machinery where safe to do so) to encourage resident fauna to abandon tree, prior to felling;
- lowering of hollow-bearing trees as gently as possible (soft-felled) with machinery;
- inspection of all hollows in felled trees;
- capture of any displaced/injured fauna;
- if a threatened species is identified in a habitat tree on the day of felling, the supervising person should advise the most appropriate method to minimise potential harm;
- release of unharmed fauna into nearby habitats;
- injured fauna to be assessed and taken to wildlife carer, if necessary;
- felled trees are to be rolled so that the number of hollows blocked against the ground are minimised;
- all felled trees are to remain in place overnight to allow any unidentified fauna to escape; and
- salvage of suitable hollows for use as compensatory habitat, where practicable.

All personnel who will capture/handle/house and/or transport native fauna species (injured or uninjured) will be suitably qualified and experienced.

#### 4.3.1.3 Resource Salvaging

Where practical, a selection of habitat features will be salvaged for reuse in rehabilitation areas. This will include suitable:

- seed resources;
- tree hollows;
- hollow logs; and
- fallen timber and woody debris.

Salvageable habitat features (i.e. with good structural integrity and suitability for relocation and fauna use) will be identified during pre-clearing surveys, and collected as part of the clearing process, where suitable and feasible to do so. Salvaged features will then be stockpiled for use in rehabilitation to increase the habitat diversity and availability of rehabilitation areas, thus making them more suitable for native fauna colonisation (particularly threatened species) (refer to **Table 4-2**).

Where practicable, seed collection for canopy, mid storey and groundcover species is to be undertaken prior to clearance for propagation and use in rehabilitation areas and stewardship sites (see **Table 4-2**).

#### 4.3.1.4 Salvage of Threatened Flora Species

No threatened flora species are known to occur in the approved disturbance area. If threatened flora species are recorded in the disturbance footprint during pre-clearance surveys (refer to **Table 4-2**), options for salvage, translocation and/or propagation will be investigated and recommendations sought from a suitably qualified person in accordance with the **Guidelines for the Translocation of**

**Threatened Plants in Australia** (Vallee et al. 2004). Where possible, the threatened flora will be translocated to suitable locations within the biodiversity stewardship sites or rehabilitation areas.

### 4.3.2 Pest and Feral Animal Control

Pest animals that are known to potentially occur at United through fauna monitoring and opportunistic sightings include rabbits, brown hares, wild dogs, cats, foxes and pigs. These species can potentially impact on native fauna species through predation and by competing with native fauna for resources such as shelter, breeding sites and food. Pest animals can also degrade soil quality and, hence, reduce the productivity of the land.

Pest animals relevant to this BioMP are outlined in **Table 4-3**. Pest control activities will be reported in the Annual Review.

*Table 4-3: Pest Animals and Management*

| Pest Species      | Threat Abatement Plan                                                                                                   | Suitable Control Method                                                    |
|-------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>Wild dog</b>   | No TAP available                                                                                                        | 1080 poisoning<br>Soft-jaw trapping<br>Opportunistic shooting              |
| <b>Red fox</b>    | Threat Abatement Plan for Predation by the Red Fox (DEWHA 2008)                                                         | 1080 poisoning<br>Canid pest ejectors<br>Cage trapping                     |
| <b>Pigs</b>       | Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs (DoE 2017) | 1080 poisoning<br>Trapping<br>Opportunistic shooting                       |
| <b>Feral Cats</b> | Threat Abatement Plan for Predation by Feral Cats (DoE 2015)                                                            | Baiting<br>Trapping                                                        |
| <b>Rabbits</b>    | Threat abatement plan for competition and land degradation by rabbits (DoE 2016)                                        | 1080 or Pindone poisoning<br>Burrow fumigation and destruction<br>Trapping |

### 4.3.3 Mitigation Measures Summary

**Table 4-4** provides a summary of the mitigation measures that will be implemented in the short, medium and long term to minimise the impacts of United Wambo

Table 4-4: Mitigation Measures

| Action                                                      | Short term<br>2023 – 2025                                                                                                                                                                                                                                                                                                                                                  | Medium term<br>2026 - 2030                                                                                                                                                                                                                                                                                                      | Long term<br>2031 - 2039                                              |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Minimise the impacts of the development on biodiversity     | Undertake pre-clearance surveys and tree-felling supervision<br>Salvage biological resources, where practicable<br>Develop an annual work schedule to manage weeds identified on site<br>Undertake weed control in accordance with the annual work schedule.<br>Undertake pest control as required<br>Native seed collection and propagation<br>Monitoring and improvement | Undertake pre-clearance surveys and salvage biological resources<br>Ongoing weed and pest control<br>Habitat augmentation in surrounding habitats using salvaged resources and nest boxes where required<br>Progressive rehabilitation<br>Monitoring and Improvement                                                            | Progressive rehabilitation<br>Monitoring and Improvement              |
| Manage the remnant vegetation and fauna habitat at the site | Clear delineation of disturbance footprints to avoid accidental clearance<br>Weed and pest management<br>Seed collection and propagation<br>Monitoring and improvement<br>Pest and feral animal control                                                                                                                                                                    | Clear delineation of disturbance footprints to avoid accidental clearance<br>Habitat augmentation in surrounding habitats using salvaged resources and nest boxes where required<br>Ongoing weed and pest management<br>Rehabilitation and compensatory planting from propagated local seed stock<br>Monitoring and improvement | Monitoring and improvement                                            |
| Bushfire Management                                         | As part <b>Bushfire Management Plan</b> , the vegetation retained within United Wambo will be appropriately managed to protect life and property, while supporting appropriate conditions for the significant ecological features identified.                                                                                                                              | Ongoing enforcement of <b>Bushfire Management Plan</b>                                                                                                                                                                                                                                                                          | Ongoing enforcement of <b>Bushfire Management Plan</b> , as necessary |
| Grazing and Agriculture                                     | Portions of United Wambo to be managed for stock grazing and agricultural purposes<br>Within specific areas of the site, including 330kV line in the north east, the south west and north west of the United Wambo site.                                                                                                                                                   | Maintenance of fencing                                                                                                                                                                                                                                                                                                          | Maintenance of fencing                                                |

| Action                          | Short term<br>2023 – 2025                                                                                                                                                                                                                                                                                         | Medium term<br>2026 - 2030                              | Long term<br>2031 - 2039                                             |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|
| Employee Education and Training | <p>Develop and appropriate package of educational material to be presented to site employees and contractors.</p> <p>Facilitate mine site awareness of biodiversity values of United Wambo and requirements of the BioMP in relation to site operations</p> <p>Inductions for staff, contractors and visitors</p> | Ongoing, inductions for staff, contractors and visitors | Ongoing, inductions for staff, contractors and visitors, as required |

## 4.4 Mine Rehabilitation

### 4.4.1 Rehabilitation Management Plan

Rehabilitation will be undertaken in accordance with the approved **United Wambo Rehabilitation Management Plan** (RMP). The RMP details the rehabilitation objectives, performance measures and completion criteria for specific areas that are to be rehabilitated during the term of the RMP. Areas of rehabilitation will be assessed to confirm if they are meeting or trending towards meeting the completion criteria. Subsequent reviews of the RMP will consider relevant updates to PCTs, benchmarks and assessment methodologies in relation to ongoing refinement of the final completion criteria.

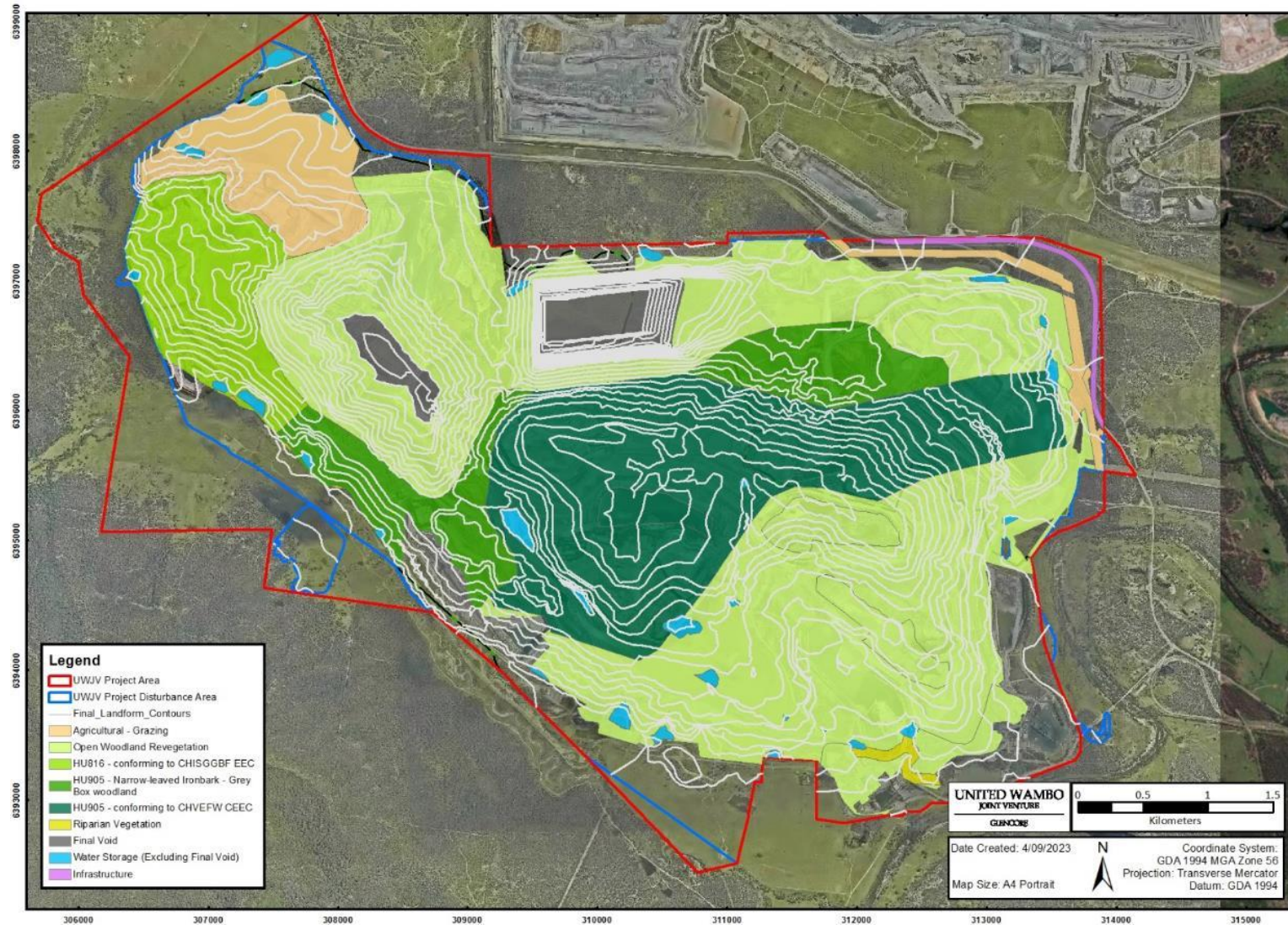


Figure 4-1: Approved Final Landform Plan

#### 4.4.2 Habitat Features

United Wambo will re-establish ground fauna habitat through the relocation of cleared vegetation to targeted mine site rehabilitation areas, where practicable and construct dams to facilitate the re-colonisation of woodland fauna communities.

The project should implement habitat enhancement measures of retained vegetation such as provision of nest boxes, salvaged hollows, fallen timber, hollow logs and boulders, as deemed necessary.

#### 4.4.3 Seed Collection and Propagation

Local provenance seed will be targeted for collection at United Wambo including during clearing activities (i.e. collection of seeds from felled trees) where possible. However, due to the intermittent and unpredictable nature of native species seed production, the volumes of seed expected to be collected are low to very low. Seed collection activities will be managed in accordance with the Flora Bank Guidelines (Florabank 2013).

Seed propagation activities will be undertaken by an external contractor who is suitably trained, licenced and experienced in propagation of the species required for revegetation. Ideally, all seed collected as part of the seed collection program will be used for tree propagation or direct seeding activities.

Where local provenance seed is unavailable, native seed will be purchased from suitable seed suppliers as required. Local provenance seed will be purchased from these suppliers as much as possible

#### 4.4.4 Ecological Mine Rehabilitation

Details regarding the implementation and management of on-site rehabilitation are provided in the **United Wambo Rehabilitation Management Plan**. The sections below provide further details on how rehabilitation will be implemented to meet the requirements of the Ecological Mine Rehabilitation in the Biodiversity Offset Strategy.

##### 4.4.4.1 Target Plant Community Types for Mine Rehabilitation

The NSW *Biodiversity Offset Policy for Major Projects* (OEH 2014a) enables the use of ecological mine rehabilitation to contribute towards meeting the offset requirement of a mining project.

Ecological rehabilitation is defined as a 'mine site where the rehabilitation will result in recognisable and self-sustaining plant community types (PCTs) as defined through the guidelines'. The NSW Resources Regulators *Rehabilitation Objectives and Completion Criteria Guidelines* (RR, 2023) provide objectives and completion criteria against which ecological rehabilitation can be measured to determine whether it comprises a recognisable and self-sustaining PCT. United Wambo has used these guidelines to develop site specific completion criteria to achieve this goal. These criteria are provided in the **United Wambo Rehabilitation Management Plan**.

Rehabilitated woodland areas are proposed to be created within United Wambo's post-mining landscape to contain flora species assemblages that are characteristic of the dominant vegetation communities impacted by United Wambo. The target PCTs that will comprise the ecological rehabilitation at United Wambo are outlined in Table 4-5. In total, the mine site ecological rehabilitation contributes up to 25 per cent of the overall biodiversity offset requirements and up to 20 per cent of the Central Hunter Valley Eucalypt Forest and Woodland CEEC requirements (as per Condition B61 of the **SSD 7142**). This includes the restoration of up to 878 hectares of native

vegetation communities (including Central Hunter Valley Eucalypt Forest and Woodland CEEC (as presented in *Table 4-5*).

*Table 4-5: Target PCTs for Mine Rehabilitation*

| PCT / Species                                                                                                                                                                                                  | Area (ha)    | Credits      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|
| PCT 1691 (HU905) - Narrow-leaved Ironbark - Grey Box grassy woodland of the central and upper Hunter (conforming to <i>Central Hunter Valley Eucalypt Forest and Woodland CEEC</i> under the EPBC Act)         | 510.2        | 1,402        |
| PCT 1602 (HU816) – Spotted Gum - Narrow-leaved Ironbark shrub - grass open forest of the central and lower Hunter (conforming to Central Hunter Ironbark – Spotted Gum – Grey Box Forest EEC under the BC Act) | 156.0        | 192          |
| PCT 1691 (HU905) - Narrow-leaved Ironbark - Grey Box grassy woodland of the central and upper Hunter                                                                                                           | 212.8        | 507          |
| PCT 1731 (HU945) - Swamp Oak - Weeping Grass Grassy Riparian Forest of the Hunter                                                                                                                              | 16.7         | 145          |
| Total                                                                                                                                                                                                          | <b>895.7</b> | <b>2,246</b> |

The approved final landform and proposed final land use locations are shown in *Figure 4-1*.

#### 4.4.4.2 Security of Ecological Mine Rehabilitation

As required in the NSW Biodiversity Offset Policy for Major Projects, a security bond will be required to ensure that the cost of rehabilitation will be met by the proponent. The monetary amount is to be sufficient to cover the cost of undertaking the works to achieve self-sustaining and recognisable PCTs as outlined above.

Following the completion of the rehabilitation and achievement of the completion criteria, the ongoing land use for the area of mine rehabilitation will be native vegetation conservation to provide ongoing protection and management of the area.

Under NSW Government policy, there are a range of safeguard mechanisms in place if the situation occurs that the ecological rehabilitation does not meet the required standard and an alternative offset must be provided. It should be noted, however, that Glencore has a good record in delivery of high-quality rehabilitation and is confident that it can deliver the required standard of rehabilitation. Glencore is contributing to ongoing research projects that contribute to ongoing improvements in rehabilitation practice.

The specific performance measures and completion criteria proposed for the ecological rehabilitation will be approved by relevant government agencies as part of this plan and the Rehabilitation Management Plan and would be applied to ensure appropriate consideration of condition, composition, structure and function of the ecological mine rehabilitation to establish the CEEC. As per *Appendix D* of the NSW Biodiversity Offsets Policy for Major Project, if it becomes clear that the ecological rehabilitation standard for which biodiversity credits have been generated is not able to be achieved, the proponent must instead source and retire these credits from an alternate offset to meet its offset requirement. An agreement must be reached between the proponent and NSW government that the objectives and completion/relinquishment criteria are unable to be achieved.

Furthermore, where ecological mine rehabilitation has been used to contribute to an offset requirement, a security bond must be provided until the operator of the mine has proven through

monitoring that the rehabilitation has established self-sustaining and recognisable plant community types. The bond ensures that sufficient money is available for the rehabilitation works to be completed should the mining company for any reason be unable to deliver the required works.

As discussed, the area of ecological mine rehabilitation to be restored to the Central Hunter Valley Eucalypt Forest and Woodland CEEC will be secured using an appropriate in-perpetuity conservation mechanism following the achievement of the completion criteria outlined in the RMP and the closure of the mine.

## 4.5 Biodiversity Offset Strategy

United Wambo has developed a Biodiversity Offset Strategy (BOS) to appropriately compensate for the unavoidable loss of ecological values as a result of the United Wambo Project. The BOS requires the retirement of biodiversity credits as outlined in Condition B55 (Table 5) of SSD 7142. The retirement of the credits has been staged to allow for progressive retirement as the operation develops.

During the project approval process, it was negotiated with the Biodiversity Conservation Division (BCD) that Stage 1 credit retirements would be satisfied through:

- the establishment of six BSSs, ensuring in perpetuity conservation and reporting; and
- ecological mine rehabilitation (see *Section 4.4.4.1*) contributing 25 per cent of the overall biodiversity offset requirements and up to 20 per cent of the Central Hunter Valley Eucalypt Forest and Woodland CEEC requirements.

These six BSSs have now been formally executed through BSAs and secured in perpetuity:

- Highfields Biodiversity Stewardship Site (BS0106);
- Mangrove Biodiversity Stewardship Site (BS0138);
- Wambo Biodiversity Stewardship Site (BS0117);
- Jerrys Plains Biodiversity Stewardship Site (BS0124);
- Brosi Biodiversity Stewardship Site (BS0105); and
- South Wambo Biodiversity Stewardship Site (BS0148).

It should be noted that the Wambo and South Wambo BSA's have been executed by Peabody Pty Ltd (Peabody) (a joint venture partner) as they own the land on which those BSSs occur. Therefore, all management and reporting requirements will be conducted by Peabody.

Whilst a summary of each of the BSSs are provided in *Section 4.5.2*, the detailed management and monitoring requirements for the BSSs are detailed separately in the individual Biodiversity Stewardship Site Assessment Reports (BSSARs) and BSA Management Plans.

Similarly, the Ecological Mine Rehabilitation is summarised in Section 12, but detailed information on the site's rehabilitation strategy and implementation are provided in the ***United Wambo Rehabilitation Strategy*** and ***United Wambo Rehabilitation Management Plan***.

### 4.5.1 Biodiversity Credit Requirements

United Wambo had approval to retire biodiversity credits progressively based on the staging of native vegetation disturbance in line with the progressive development of the mine. The three stages of disturbance proposed are approximately seven-year stages, and are referred to as Stage 1, Stage 2 and Stage 3, and are shown in *Figure 4-2*.

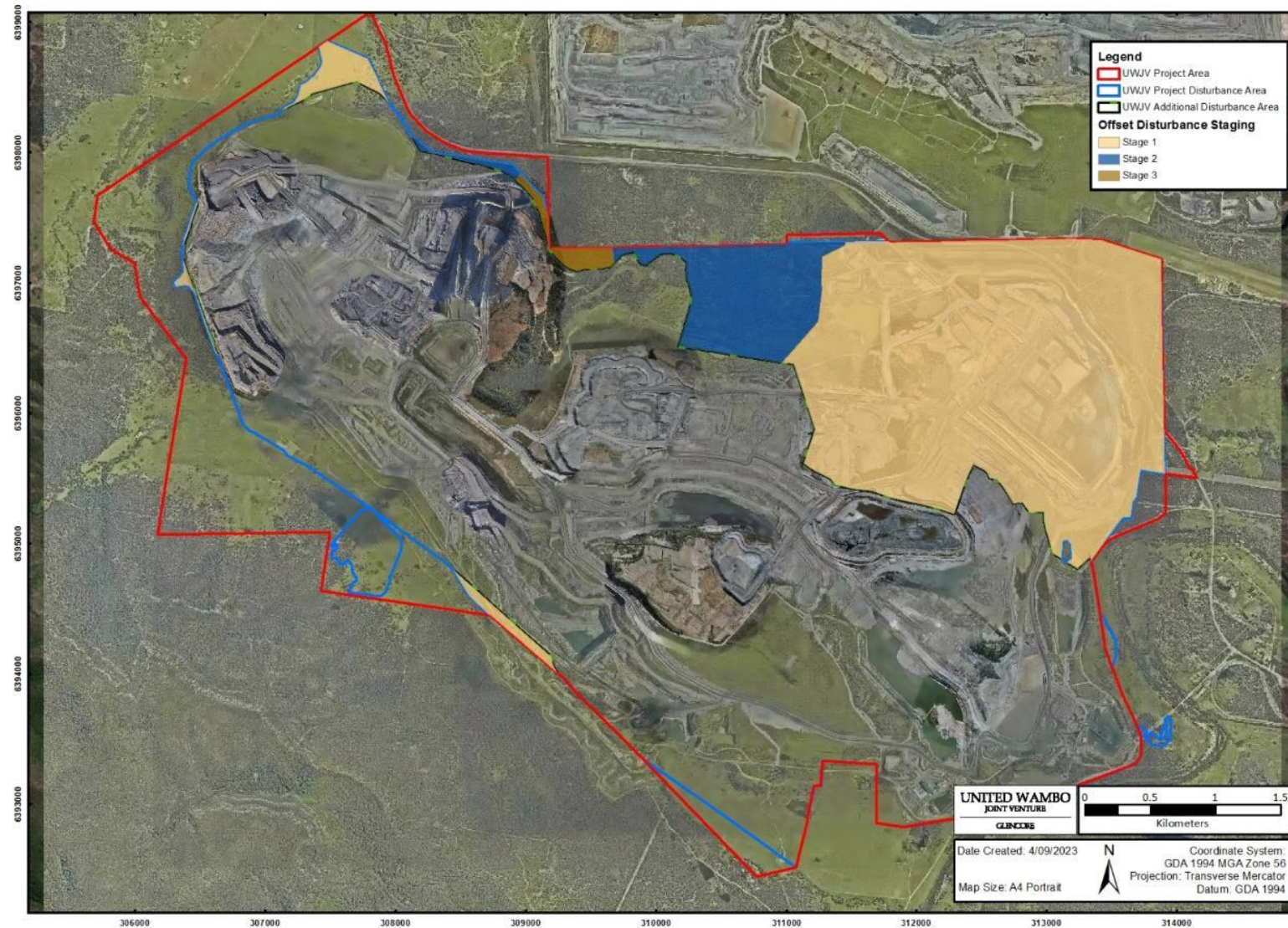


Figure 4-2: Staged Disturbance Areas

Number: UWOC-1689771511-368

Status: Approved

Effective: 6/02/2023

Owner: Environment &amp; Community Manager

Version: 7.0

Review: 6/02/2026

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#### 4.5.1.1 Stage 1

The biodiversity credit requirements listed in Condition B55 were calculated using the BioBanking Assessment Methodology (BBAM). Following the commencement of the Biodiversity Conservation Act 2016 and the completion of savings and transitional arrangements, BBAM credits can no longer be created. Following consultation with the Biodiversity and Conservation Division (BCD), the Biodiversity Conservation Trust (BCT) and the Department of Planning and Environment (DPE), it has been determined that United Wambo must retire credits created under the Biodiversity Assessment Method (BAM credits).

In a letter dated 18 September 2020, Joe Thompson, Director Hunter Central Coast Branch, BCD, proposed the following process to address the issues regarding the retirement of the proposed offset credits:

- 1. Establish Biodiversity Stewardship Agreements across the proposed offset lands for Stage 1 (or all stages) of the project to generate BAM offset credits. Data already collected from BBAM plots across the offset sites will require supplementation with new BAM data collected from each plot.*
- 2. Once all Stage 1 (or all stages) Biodiversity Stewardship Agreements have been established, apply for an 'assessment of reasonable equivalence' to have the BBAM credits for the development footprint changed to BAM credits.*

*Once steps 1 and 2 above are completed you will be able to compare the BAM credit obligation for the project with the BAM credits generated by the Biodiversity Stewardship Sites of the project and be able to retire the credits.*

The six biodiversity offset sites, combined with the Ecological Mine Rehabilitation satisfied 100 per cent of the required offset credits for Stage 1 of the Project according to an assessment of biodiversity credits under the former FBA process using the BBAM (with the exception of the Southern Myotis credits which were not initially generated on any of the BSSs). United Wambo has completed all of the above requirements, retired all of the Stage 1 credits and obtained correspondence from DPHI confirming they are satisfied that the Stage 1 credit obligations have been met, this letter is provided in Appendix K - Biodiversity Credit Retirement.

#### 4.5.1.2 Stages 2 and 3

During 2023 United Wambo applied for a 'Reasonable Equivalence Assessment' to convert the BBAM credits listed for Stages 2 and 3 in Condition B55 (Table 5) of SSD-7142 to BAM credits which are the currently supported credits by the NSW Biodiversity Offset Scheme.

Credits associated with Stage 2 and Stage 3 offsetting were retired in full on 9 April 2025. United Wambo met its Stage 2 and 3 credit requirements through a combination of retirement of existing credits held within the South Wambo BSA, the purchase and retirement of additional credits and payments into the Biodiversity Conservation Fund (BCF) in accordance with Section 6.33 of the *Biodiversity Conservation Act 2016*, a summary of the final credit obligation and retirement methods are presented in **Table 4-6** with Credit Retirement Reports and evidence of payments into the BCF provided in Appendix K - Biodiversity Credit Retirement.

Table 4-6: Stage 2 and 3 Credit Obligations and Retirement

| Credit Type                                                                                | Stage 2<br>BAM<br>Credits | Stage 3<br>BAM<br>Credits | Total BAM<br>Credits<br>Required | Surplus<br>Stage 1<br>Credits | South Wambo<br>BSA BS0148<br>Credits | Final Stage<br>1 and 2<br>Obligation | Retirement Method                                                                                                                                |
|--------------------------------------------------------------------------------------------|---------------------------|---------------------------|----------------------------------|-------------------------------|--------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Central Hunter Valley Eucalypt Forest and Woodland CEEC under the EPBC Act                 | 1,882                     | 365                       | 2,247                            | 858                           | 117                                  | 1272                                 | BS0148 CH-546 (117)<br>BS0045 CH-265 (393), BS0045 CH-265 (424), BS0149 CH-626 (340), BS0149 CH-626 (27), BS0149 CH-626 (59), BS0177 CH-727 (29) |
| Hunter Floodplain Red Gum Woodland EEC under the BC Act                                    | 20                        | 0                         | 20                               | 0                             | 14                                   | 6                                    | BS0148 CH-546 (14)<br>BCF825 payment into fund (6)                                                                                               |
| Central Hunter Ironbark - Spotted Gum - Grey Box Forest EEC under the BC Act               | 0                         | 0                         | 0                                | 0                             | 0                                    | 0                                    | NA                                                                                                                                               |
| Central Hunter Grey Box - Ironbark Woodland EEC under the BC Act                           | 60                        | 0                         | 60                               | 59                            | 0                                    | 1                                    | BS0045 CH-265 (1)                                                                                                                                |
| HU905 - Narrow- leaved Ironbark - Grey Box Grassy Woodland of the Central and Upper Hunter | 693                       | 1                         | 694                              | 20                            | 411                                  | 263                                  | BS0148 CH-546 (411)<br>BS0045 CH-265 (263)                                                                                                       |
| HU906 - Bull Oak Grassy Woodland of the Central Hunter Valley                              | 0                         | 0                         | 0                                | 14                            | 0                                    | 0                                    | NA                                                                                                                                               |
| HU945 - Swamp Oak - Weeping Grass Grassy Riparian Forest of the Hunter Valley              | 146                       | 0                         | 146                              | 9                             | 0                                    | 137                                  | BCF825 payment into fund (137)                                                                                                                   |
| <b>TOTAL</b>                                                                               | <b>2,801</b>              | <b>366</b>                | <b>3,167</b>                     | <b>961</b>                    | <b>542</b>                           | <b>1,679</b>                         |                                                                                                                                                  |
| <b>Southern Myotis (Myotis Macropus)</b>                                                   | 541 <sup>1</sup>          | 0                         | 541 <sup>1</sup>                 |                               |                                      | 541 <sup>1</sup>                     | BS0082 CH-676 (462)<br>BCF860 payment into fund (79).                                                                                            |

1 BBAM credits are available on the public register for these communities / species so no re-calculation of credits required.

## 4.5.2 Biodiversity Stewardship Sites

The location of the stewardship sites in relation to other Glencore biodiversity offset sites, United Wambo and National Parks are displayed in **Figure 4-3**. Details on these proposed stewardship sites, including a brief description of the vegetation communities mapped and species lists for threatened flora and fauna recorded in the BSSs, is provided in the following sections.

### 4.5.2.1 Highfields Biodiversity Stewardship Site

The Highfields Biodiversity Stewardship Site (Highfields Offset) comprises of land owned by Glencore and is located in the Manobalai area, approximately 60 kilometres north-west of United Wambo (refer to **Figure 4-3**). The historical land use of the Highfields Offset has been agricultural, primarily cattle and sheep grazing. The property has been maintained as a landholding for this purpose since the late 1800s.

The Highfields Offset is 415 hectares in size, with approximately 11 per cent having been previously cleared for agricultural purposes. This cleared land occurs on the lower slopes and undulating land on the plateaus. The site has steep, rising hills with vegetative cover that ranges from open to dense woodland and containing ridgelines, outcrops and caves. The remainder of the Offset is characterised by remnant woodland on the upper and lower slopes and drainage lines.

The Highfields Offset contains the following key biodiversity features relevant for the offsetting strategy for United Wambo:

- 293 hectares of White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EBPC Act, and White Box Yellow Box Blakely's Red Gum Woodland EEC under the BC Act;
- Woodland and forest habitat suitable key threatened species such as spotted-tailed quoll (*Dasyurus maculatus*), regent honeyeater (*Anthochaera phrygia*) and swift parrot (*Lathamus discolor*);
- riparian habitat associated with a third order stream being Dry Creek; and
- it is within the area targeted for conservation as part of the Great Eastern Ranges Initiative.

Surveys of the Highfields Offset identified three Plant Community Types (PCTs) across six condition classes being:

- PCT618 White Box x Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley
  - *Moderate to Good*
  - *Shrubby Variant*
  - *Derived Native Grassland*
- PCT1607 Blakely's Red Gum - Narrow-leaved Ironbark - Rough-barked Apple shrubby woodland of the upper Hunter
  - *Moderate to Good*
  - *Derived Native Grassland*

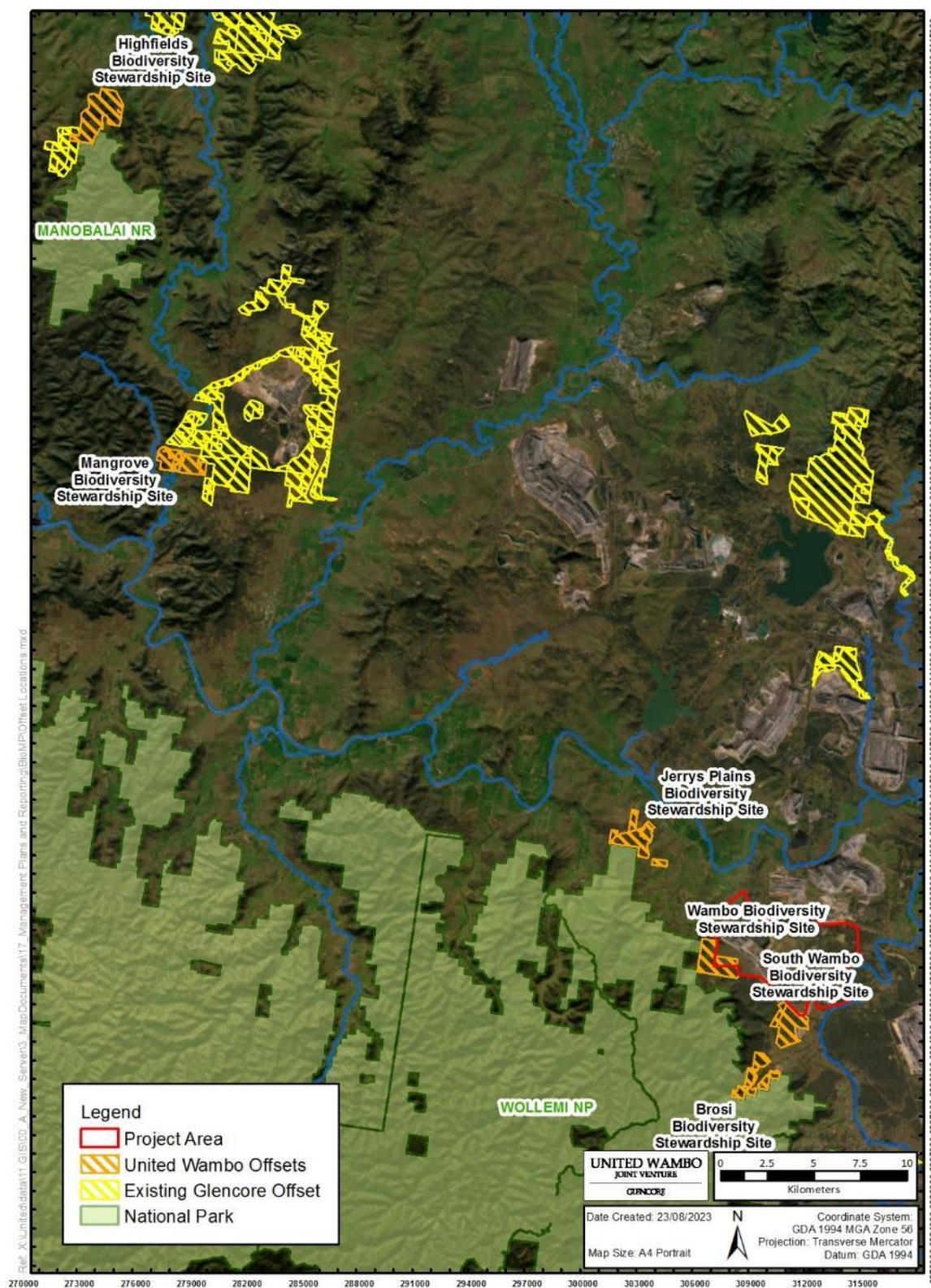


Figure 4-3: Strategic Location of Glencore and United Wambo Biodiversity Stewardship Sites

- PCT1654 Narrow-leaved Ironbark - Grey Gum shrubby open forest on sandstone ranges of the upper Hunter Valley
  - *Moderate to Good*

Three of the vegetation zones described above and mapped within the Highfields Stewardship Site conform to State and Commonwealth listed TECs. The vegetation zones and corresponding TECs are listed in **Table 4-7**. There were no individual threatened species identified which generate species-credits.

*Table 4-7: Highfields Offset Threatened Ecological Communities*

| PCT<br><i>Condition</i>                                                                                                                                           | Total Area (ha) | BC Act TEC                                                                                      | EPBC Act TEC                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| PCT618 – White Box x Grey Box - Red Gum - Rough-barked Apple Grassy Woodland on rich soils on hills in the upper Hunter Valley<br><i>Moderate to Good</i>         | 154.4           | <i>White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland</i> CEEC | <i>White Box Yellow Box Blakely's Red Gum Grassy Woodlands and Derived Native Grassland</i> CEEC |
| PCT618 – White Box x Grey Box - Red Gum - Rough-barked Apple Grassy Woodland on rich soils on hills in the upper Hunter Valley<br><i>Shrubby Variant</i>          | 95.8            |                                                                                                 |                                                                                                  |
| PCT618 – White Box x Grey Box - Red Gum - Rough-barked Apple Grassy Woodland on rich soils on hills in the upper Hunter Valley<br><i>Derived Native Grassland</i> | 43.2            |                                                                                                 |                                                                                                  |

Key management activities included in the Highfields BSS Management Plan include:

- Fence construction (approx.. 7km);
- Redundant fence removal;
- Weed and feral animal control;
- Active revegetation;
- Controlled burning; and
- Baseline and ongoing monitoring.

#### 4.5.2.2 Mangrove Biodiversity Stewardship Site

The Mangrove Biodiversity Stewardship Site (Mangrove Offset) is owned by Glencore and is located approximately 41 kilometres north-west of United Wambo and approximately 18 kilometres south of the Highfields Offset in the Manobalai area (refer to **Figure 4-3**). The historical land use of the proposed Mangrove Stewardship site has been agricultural, primarily cattle and sheep grazing and limited crop production. Sections of the property, however, contain retained native vegetation cover.

The Mangrove Offset is 245 hectares in size, with approximately 68 per cent having been cleared for agricultural purposes. This cleared land occurs on the lower and mid slopes. Steep, rising hills range from open to moderately dense woodland and contain ridgelines, outcrops and caves. The remainder of the Stewardship Site is characterised by remnant woodland on the slopes and along Wybong Creek.

The site is dominated by generally cleared creek flats/floodplain, with some rock outcropping, in particular on the western end of the property. Small farm dams are scattered on the lower and mid slopes of the site, in areas cleared for livestock grazing. Wybong Creek runs through the lowest section of the Stewardship Site and is a semi-permanent watercourse with a mix of sand-silt based pools and stony riffles. The creek has deeply incised banks, however, the floodplains are gently sloping.

The Mangrove Stewardship Site contains the following key biodiversity features relevant for the offsetting strategy for United Wambo:

- 31.8 hectares of Central Hunter Grey Box – Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions EEC under the BC Act;
- 14.6 hectares of Hunter Floodplain Red Gum Woodland in the NSW North Coast and Sydney Basin Bioregions EEC under the BC Act and White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act;
- suitable breeding (hollow-bearing tree) habitat for southern myotis (*Myotis macropus*);
- woodland and forest habitat suitable key threatened species such as spotted-tailed quoll (*Dasyurus maculatus*), regent honeyeater (*Anthochaera phrygia*) and swift parrot (*Lathamus discolor*); and
- riparian habitat associated with a sixth order stream being Wybong Creek.

Surveys of the Mangrove Stewardship Site identified four PCTs across nine condition classes being:

- PCT485 River Oak riparian grassy tall woodland of the western Hunter Valley (Brigalow Belt South Bioregion and Sydney Basin Bioregion)
  - Derived Native Grassland
  - Moderate to Good Condition
- PCT1612 Narrow-leaved Ironbark – Grey Gum – Native Olive woodland of Central Hunter
  - Moderate to Good Condition
- PCT1598 Forest Red Gum grassy open forest on floodplains of the lower Hunter
  - Derived Native Grassland – Low condition
  - Derived Native Grassland – Very low condition
  - Moderate to Good Condition
- PCT1691 Narrow-leaved Ironbark - Grey Box grassy woodland of the central and upper Hunter
  - Derived Native Grassland
  - Moderate to Good Condition
  - Regeneration

Four of the vegetation zones described above and mapped within the Mangrove Stewardship Site conform to State and Commonwealth listed TECs. The vegetation zones and corresponding TECs are listed in **Table 4-8**. Additionally, two threatened flora species have been identified within the Mangrove Offset, and these are described in **Table 4-9**.

Table 4-8: Mangrove Offset Threatened Ecological Communities

| PCT<br>Condition                                                                                                              | Total<br>Area<br>(ha) | BC Act TEC                                                                                                                                                                                                                                                                                                                                                                                                                                            | EPBC Act TEC                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1598 Forest Red Gum Grassy Open Forest on Floodplains of the Lower Hunter<br><br><i>Moderate to Good</i>                      | 14.6                  | <i>Hunter Floodplain Red Gum Woodland in the NSW North Coast and Sydney Basin Bioregions EEC</i>                                                                                                                                                                                                                                                                                                                                                      | <i>White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC</i> |
| 1691 Narrow-leaved Ironbark - Grey Box Grassy Woodland of the Central and Upper Hunter<br><br><i>Derived Native grassland</i> | 68.1                  | Active restoration actions are proposed that will restore this zone to the woodland condition of this PCT, which will likely be consistent with the <i>Central Hunter Grey Box – Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions EEC</i> .<br><br>Given that only parts of this zone (Management Zone 6, ~44ha) will be restored to TEC condition, this vegetation zone has not been allocated to the EEC in the BAM calculator. | -                                                                                               |
| 1691 Narrow-leaved Ironbark - Grey Box Grassy Woodland of the Central and Upper Hunter<br><br><i>Moderate to Good</i>         | 18.6                  | <i>Central Hunter Grey Box – Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions EEC</i>                                                                                                                                                                                                                                                                                                                                             | -                                                                                               |
| 1691 Narrow-leaved Ironbark - Grey Box Grassy Woodland of the Central and Upper Hunter<br><br><i>Regeneration</i>             | 13.2                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                       | -                                                                                               |

Table 4-9: Threatened Species at the Mangrove Stewardship Site

| Species Name                                       | BC Act Status | EPBC Status | Further Information on Records                                                                                                                                                                                 |
|----------------------------------------------------|---------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pine donkey orchid<br><i>Diuris tricolor</i>       | V             | -           | 2,084 individuals recorded on the Mangrove BioBank Site in 2019 as part of an expert report (Eastcoast Flora Survey, 2019).<br><br>200.7ha of Species Polygons identified in the Mangrove BSSAR (Umwelt 2023). |
| Tarengo leek orchid<br><i>Prasophyllum petilum</i> | E             | E           | 411 individuals recorded on the Mangrove BioBank Site in 2019 as part of an expert report (Eastcoast Flora Survey, 2019).<br><br>200.7ha of Species Polygons identified in the Mangrove BSSAR (Umwelt 2023).   |

Key management activities included in the Mangrove BSS Management Plan include:

- Redundant fence removal;
- Infrastructure and waste removal;
- Weed and feral animal control;
- Active revegetation;
- Controlled burning; and
- Baseline and ongoing monitoring.

#### 4.5.2.3 Wambo Biodiversity Stewardship Site

The Wambo Biodiversity Stewardship Site is located immediately west of United Wambo. It comprises land owned by Wambo, located in the Jerrys Plains area, approximately 20 kilometres west of Singleton, NSW, and adjacent to Wollemi National Park (refer to **Figure 4-3**). The historical land use of the proposed Wambo Biodiversity Stewardship Site has been agricultural, primarily cattle and sheep grazing. Parts of the proposed Wambo Biodiversity Stewardship Site are currently subject to proposed underground longwall panels as part of the South Bates Extension Modification Project. As discussed in the *Biodiversity Assessment Report* (BAR) (Umwelt, 2017), the potential impacts of this mining activity (if approved) have been assessed (FloraSearch 2017) and were considered unlikely to result in a measurable impact on the quality of the native vegetation and habitats in the Biodiversity Stewardship site.

The Wambo Biodiversity Stewardship Site is 270.5 hectares in size, with approximately 20 per cent having been previously cleared for agricultural purposes. The site is positioned on the lower slopes of the southern rim of the Hunter Valley at the base of steep slopes and sandstone escarpments to the south-west. The majority of the site contains Hunter Valley floor woodland vegetation, with small pockets of derived native grassland which have previously been cleared, and areas of riparian vegetation along North Wambo Creek. The vegetation is reasonably young and, as a result, the hollow-bearing tree density is generally low. The woodland vegetation within the site occurs at the interface of land which has been predominantly cleared of trees and converted to grassland for grazing purposes.

The Wambo Biodiversity Stewardship Site contains the following key biodiversity features relevant for the offsetting strategy for the Project:

- 145.7 hectares of *Central Hunter Valley Eucalypt Forest and Woodland CEEC* under the EPBC Act (and 40.1 hectares of grassland able to be restored to conform to the CEEC);
- 147.1 hectares of Hunter Valley Footslopes Slaty Gum Woodland in the Sydney Basin Bioregion VEC under the BC Act;
- 41.1 hectares of Central Hunter Grey Box – Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions EEC under the BC Act;
- Woodland and forest habitat suitable key threatened species such as spotted-tailed quoll (*Dasyurus maculatus*) and swift parrot (*Lathamus discolor*);
- riparian habitat associated with a fifth order stream being North Wambo Creek; and
- proximity to the impacts of the Project (immediately to the west of United Wambo).

Surveys of the Wambo Stewardship Site identified three Plant Community Types (PCTs) across nine condition classes being:

- PCT485 - River Oak Riparian Grassy Tall Woodland of the Western Hunter Valley (Brigalow Belt South)
  - Moderate to Good Condition
  - Derived Native Grassland.
- PCT1176 - Slaty Box - Grey Gum Shrubby Woodland on Footslopes of the Upper Hunter Valley, Sydney Basin Bioregion
  - Moderate to Good Condition
  - Regeneration
  - Regeneration - Dense
- PCT1603 - Narrow-leaved Ironbark - Bull Oak - Grey Box shrub - grass open forest of the central and lower Hunter
  - Moderate to Good Condition
  - Cooba Woodland
  - Derived Native Grassland
  - Regeneration.

Seven of the vegetation zones described above and mapped within the Wambo Stewardship Site conform to State and Commonwealth listed TECs. The vegetation zones and corresponding TECs are listed in **Table 4-10**. Additionally, two threatened species have been identified within the Wambo Offset, and these are described in **Table 4-11**.

*Table 4-10: Wambo Offset Threatened Ecological Communities*

| PCT<br>Condition                                                                                               | BC Act TEC                                                                      | EPBC Act TEC                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| PCT1176 Slaty Box - Grey Gum Shrubby Woodland on Footslopes of the Upper Hunter Valley, Sydney Basin Bioregion | 147.13 of Hunter Valley Footslopes Slaty Gum Woodland in the Sydney Basin (VEC) | 81.2 ha of Central Hunter Valley Eucalypt Forest and Woodland (CEEC) (where this vegetation occurs on Permian derived sediments) |

| PCT<br><i>Condition</i>                                                                                                                           | BC Act TEC                                                                                                                         | EPBC Act TEC                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Moderate to Good</i>                                                                                                                           |                                                                                                                                    |                                                                                                                                                                                                                                                                                                  |
| PCT1176 Slaty Box - Grey Gum Shrubby Woodland on Foothills of the Upper Hunter Valley, Sydney Basin Bioregion<br><i>Regeneration</i>              | 9.58 ha of <i>Hunter Valley Foothills Slaty Gum Woodland in the Sydney Basin</i> (VEC)                                             | 9.58 ha of <i>Central Hunter Valley Eucalypt Forest and Woodland</i> (CEEC)                                                                                                                                                                                                                      |
| PCT1603 Narrow-leaved Ironbark – Bull Oak Grey Box Shrub – Grass Open Forest of the Central and Lower Hunter<br><i>Cooba variant</i>              | NA                                                                                                                                 | With the proposed passive management, this zone is likely to naturally regenerate to the <i>Central Hunter Valley Eucalypt Forest and Woodland</i> CEEC in the future (3.97 ha)                                                                                                                  |
| PCT1603 Narrow-leaved Ironbark - Bull Oak - Grey Box Shrub - Grass Open Forest of the Central and Lower Hunter<br><i>Derived native grassland</i> | NA                                                                                                                                 | Parts of this vegetation zone conform to <i>Central Hunter Valley Eucalypt Forest and Woodland</i> (CEEC) where it occurs in gaps or between patches of woodland which are consistent with the CEEC (8.4 ha).<br><br>All remaining areas of this zone (40.1 ha) will be restored to future CEEC. |
| PCT1603 Narrow-leaved Ironbark - Bull Oak - Grey Box Shrub - Grass Open Forest of the Central and Lower Hunter<br><i>Moderate to Good</i>         | 28.15 ha of <i>Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions</i> (EEC). | 28.15 ha of <i>Central Hunter Valley Eucalypt Forest and Woodland</i> (CEEC)                                                                                                                                                                                                                     |
| PCT1603 Narrow-leaved Ironbark – Bull Oak – Grey Box Shrub – Grass Open Forest of the Central and Lower Hunter<br><i>Regeneration</i>             | 12.98 ha <i>Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions</i> (EEC).    | 12.98 ha of <i>Central Hunter Valley Eucalypt Forest and Woodland</i> (CEEC)                                                                                                                                                                                                                     |
| PCT1176 Slaty Box - Grey Gum Shrubby Woodland on Foothills of the Upper Hunter Valley, Sydney Basin Bioregion<br><i>Dense Regeneration</i>        | 1.37 ha of <i>Hunter Valley Foothills Slaty Gum Woodland in the Sydney Basin</i> (VEC)                                             | 1.37 ha of <i>Central Hunter Valley Eucalypt Forest and Woodland</i> (CEEC)                                                                                                                                                                                                                      |

Table 4-11: Threatened Species at the Wambo Stewardship Site

| Species Name     | BC Act Status | EPBC Status | Further Information on Records              |
|------------------|---------------|-------------|---------------------------------------------|
| speckled warbler | V             | -           | Recorded on site in 2010 (OEH BioNet 2016). |

| Species Name                                                        | BC Act Status | EPBC Status | Further Information on Records                             |
|---------------------------------------------------------------------|---------------|-------------|------------------------------------------------------------|
| <i>Chthonicola sagittata</i>                                        |               |             |                                                            |
| <i>large bent-wing bat</i><br><i>Miniopterus orianae oceanensis</i> | V             | -           | Recorded on site during targeted surveys in 2015 and 2017. |

Key management activities included in the Wambo BSS Management Plan include:

- Redundant fence removal;
- Infrastructure and waste removal;
- Weed and feral animal control;
- Active revegetation;
- Controlled burning; and
- Baseline and ongoing monitoring.

#### 4.5.2.4 Jerrys Plains Biodiversity Stewardship Site

The proposed Jerrys Plains Biodiversity Stewardship Site is located approximately six kilometres north-west of United Wambo. It is located south and west of the Jerrys Plains township and is adjacent to Wollemi National Park (refer to **Figure 4-3**).

The Jerrys Plains Biodiversity Stewardship Site is 260.4 hectares in size. The Mitchell Landscape is described as the Central Hunter Foothills. The site is located in the Hunter-Central Rivers major catchment area, with an unnamed tributary of Redmanvale Creek (third order stream) and Gees Creek and an unnamed tributary (both second order streams) flowing through the area. The vegetation is mainly comprised of woodland to open forest on the gently sloping mid and lower slopes and some flats. Disturbance to vegetation is widespread due to pastoral activities, grazing and past vegetation thinning. There are some areas of native grasses occurring on the flats and slopes.

The Jerrys Plains Biodiversity Stewardship Site contains the following key biodiversity features relevant for the offsetting strategy for the Project:

- 191.9 ha of Hunter Valley Foothills Slaty Gum Woodland in the Sydney Basin VEC under the BC Act;
- 195.2 ha of Central Hunter Valley Eucalypt Forest and Woodland CEEC under the EPBC Act (plus an additional 51.6ha of DNG to be restored to CEEC condition);
- 29.8 ha of Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions EEC under the BC Act;
- 1.7 ha Hunter Valley Vine Thicket in the NSW North Coast and Sydney Basin Bioregions EEC under the BC Act;
- *Acacia pendula* population in the Hunter Catchment;
- suitable breeding (hollow-bearing tree) habitat for southern myotis (*Myotis macropus*);
- woodland and forest habitat suitable key threatened species such as spotted-tailed quoll (*Dasyurus maculatus*), regent honeyeater (*Anthochaera phrygia*) and swift parrot (*Lathamus discolor*); and

- riparian habitat associated with a third order stream being a tributary of Redmanvale Creek.

Surveys of the Jerrys Plains Stewardship Site identified five Plant Community Types (PCTs) across eleven condition classes being:

- PCT1176 - Slaty Box - Grey Gum Shrubby Woodland on Footslopes of the Upper Hunter Valley, Sydney Basin Bioregion
  - Moderate to Good
  - Regeneration
  - Derived Native Grassland.
- PCT1543 - Rusty Fig - Native Quince - Native Olive dry rainforest of the Central Hunter Valley
  - Moderate to Good
- PCT1598 Forest Red Gum Grassy Open Forest on Floodplains of the Lower Hunter
  - Moderate to Good
  - Regeneration.
- PCT1691 - Narrow-leaved Ironbark - Grey Box grassy woodland of the central and upper Hunter
  - Moderate to Good
  - Regeneration
  - Bullock Dominated.
- PCT116 – Hunter Valley Weeping Myall Woodland
  - Moderate
  - Grassland

Nine of the vegetation zones described above and mapped within the Jerrys Plains Stewardship Site conform to State and Commonwealth listed TECs. The vegetation zones and corresponding TECs are listed in **Table 4-12**. Additionally, one threatened flora species has been identified within the Jerrys Plains Offset, as described in **Table 4-13**.

*Table 4-12: Jerrys Plains Offset Threatened Ecological Communities*

| PCT<br><i>Condition</i>                                                                                                                                   | BC Act TEC                                                                          | EPBC Act TEC                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| PCT1176 - Slaty Box - Grey Gum Shrubby Woodland on Footslopes of the Upper Hunter Valley, Sydney Basin Bioregion<br><br><i>Derived Native Grassland</i>   | -                                                                                   | Central Hunter Valley Eucalypt Forest and Woodland CEEC<br><br>0.2 ha (existing)<br>24 ha (future) |
| PCT1176 - Slaty Box - Grey Gum Shrubby Woodland on Footslopes of the Upper Hunter Valley, Sydney Basin Bioregion<br><br><i>Moderate to Good Condition</i> | Hunter Valley Footslopes Slaty Gum Woodland in the Sydney Basin VEC<br><br>147.0 ha | Central Hunter Valley Eucalypt Forest and Woodland CEEC<br><br>147.0 ha (existing)                 |

| PCT<br><i>Condition</i>                                                                                                                | BC Act TEC                                                                                                               | EPBC Act TEC                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| PCT1176 - Slaty Box - Grey Gum Shrubby Woodland on Foothills of the Upper Hunter Valley, Sydney Basin Bioregion<br><i>Regeneration</i> | Hunter Valley Foothills Slaty Gum Woodland in the Sydney Basin VEC<br>44.93 ha                                           | Central Hunter Valley Eucalypt Forest and Woodland CEEC<br>19.08 ha (existing)<br>25.85 ha (future) |
| PCT1543 - Rusty Fig - Native Quince - Native Olive dry rainforest of the Central Hunter Valley<br><i>Moderate to Good Condition</i>    | Hunter Valley Vine Thicket in the NSW North Coast and Sydney Basin Bioregions EEC<br>1.72ha                              | -                                                                                                   |
| PCT1691 - Narrow-leaved Ironbark - Grey Box grassy woodland of the Central and Upper Hunter<br><i>Bullock Dominated</i>                | Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions EEC<br>0.84 ha  | -                                                                                                   |
| PCT1691 - Narrow-leaved Ironbark - Grey Box grassy woodland of the Central and Upper Hunter<br><i>Moderate to Good</i>                 | Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions EEC<br>27.27 ha | Central Hunter Valley Eucalypt Forest and Woodland CEEC<br>27.27 ha (existing)                      |
| PCT1691 - Narrow-leaved Ironbark - Grey Box grassy woodland of the Central and Upper Hunter<br><i>Regeneration</i>                     | Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions EEC 1.73 ha     | Central Hunter Valley Eucalypt Forest and Woodland CEEC<br>1.73 ha (future)                         |
| PCT 116 Weeping Myall - Coobah - Scrub Wilga shrubland of the Hunter Valley<br><i>Moderate</i>                                         | Hunter Valley Weeping Myall Woodland in the Sydney Basin Bioregion<br>CEEC 1.66ha                                        | Hunter Valley Weeping Myall ( <i>Acacia pendula</i> ) Woodland<br>CEEC 1.6ha                        |
| PCT 116 Weeping Myall - Coobah - Scrub Wilga shrubland of the Hunter Valley<br>Grassland                                               | Hunter Valley Weeping Myall Woodland in the Sydney Basin Bioregion<br>CEEC 0.66ha                                        | N/A                                                                                                 |

Table 4-13: Threatened Species at the Jerrys Plains Stewardship Site

| Species Name                                             | Species Habitat Polygon Area (ha) | Further Information on Records                                                                                                                                                        |
|----------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Acacia pendula</i> population in the Hunter Catchment | 3.34                              | Species polygons were created around areas where <i>Acacia pendula</i> has been recorded or the entire vegetation zone where PCT 116 occurs. Individual records were buffered by 30m. |

Key management activities included in the Jerrys Plains BSS Management Plan include:

- Redundant fence removal;

- Infrastructure and waste removal;
- Weed and feral animal control;
- Active revegetation;
- Controlled burning; and
- Baseline and ongoing monitoring.

#### 4.5.2.5 Brosi Biodiversity Stewardship Site

The Brosi Biodiversity Stewardship Site is located approximately four kilometres south of United Wambo. It is located northwest of the Bulga township and is adjacent to Wollemi National Park in the west (refer to *Figure 4-3*).

The Jerrys Plains Biodiversity Stewardship Site is 198.1 hectares in size. The Mitchell landscape is described as Central Hunter Foothills, Central Hunter Alluvial Plains and Yengo Plateau. The site is located in the Hunter-Central Rivers major catchment area, with Wambo Creek, a fifth order creek flowing through. The vegetation is mainly comprised of open forest on mid to lower slopes in the low hills and rises. Disturbances to vegetation are low to moderate, and generally restricted to the edge where pastoral activities, grazing and past vegetation thinning has occurred. Advanced regeneration of trees and shrubs is occurring in some previously cleared areas. There is also vegetation comprised of open forest occurring on slopes and gullies and open grassland occurring on the lower slopes and flats within the Biodiversity Stewardship site. The area is highly disturbed from past to grazing activities and vegetation thinning, and numerous weed species are present.

The Brosi Biodiversity Stewardship Site contains the following key biodiversity features relevant for the offsetting strategy for the Project:

- 114.2 ha of Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions EEC under the BC Act and Central Hunter Valley Eucalypt Forest and Woodland CEEC under the EPBC Act (and 23 hectares of grassland able to be restored to conform to the CEEC);
- suitable breeding (hollow-bearing tree) habitat for southern myotis (*Myotis macropus*);
- woodland and forest habitat suitable key threatened species such as spotted-tailed quoll (*Dasyurus maculatus*), regent honeyeater (*Anthochaera phrygia*) and swift parrot (*Lathamus discolor*); and
- riparian habitat associated with a fourth or fifth order stream being a tributary of Wambo Creek.

Surveys of the Brosi Stewardship Site identified three Plant Community Types (PCTs) across six condition classes being:

- PCT485 - River Oak Riparian Grassy Tall Woodland of the Western Hunter Valley (Brigalow Belt South)
  - Derived Native Grassland
  - Moderate to Good.
- PCT1602 - Spotted Gum - Narrow-leaved Ironbark shrub - grass open forest of the Central and Lower Hunter
  - Moderate to Good.
- PCT1604 - Narrow-leaved Ironbark - Grey Box - Spotted Gum shrub - grass woodland of the Central and Lower Hunter

- Derived Native Grassland
- Moderate to Good
- Regeneration.

Three of the vegetation zones described above and mapped within the Brosi Stewardship Site conform to State and Commonwealth listed TECs. The vegetation zones and corresponding TECs are listed in **Table 4-14**. Additionally, one threatened flora species has been identified within the Brosi Offset, as described in **Table 4-15**.

Table 4-14: Brosi Offset Threatened Ecological Communities

| PCT Condition                                                                                                                                  | Total Area (ha) | BC Act TEC                                                                                                                                                                                                                                                                                                     | EPBC Act TEC                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1604 Narrow-leaved Ironbark - Grey Box - Spotted Gum shrub - grass woodland of the Central and Lower Hunter<br><i>Derived Native Grassland</i> | 23.0 (future)   | Not currently consistent with any TEC.<br><br>Active revegetation actions are proposed that will restore this zone to the woodland condition of this PCT, which will likely be consistent with the <i>Central Hunter Grey Box – Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions EEC</i> . | This zone does not currently conform to the <i>Central Hunter Valley Eucalypt Forest and Woodland CEEC</i> .<br><br>Active revegetation actions are proposed that will restore this vegetation zone to the woodland condition of this PCT, which will likely be consistent with the <i>Central Hunter Valley Eucalypt Forest and Woodland CEEC</i> . |
| 1604 Narrow-leaved Ironbark - Grey Box - Spotted Gum shrub - grass woodland of the Central and Lower Hunter<br><i>Moderate to Good</i>         | 103.3           | Central Hunter Ironbark – Spotted Gum - Grey Box – Forest in the NSW North Coast and Sydney Basin Bioregions EEC                                                                                                                                                                                               | Central Hunter Valley Eucalypt Forest and Woodland CEEC.                                                                                                                                                                                                                                                                                             |
| 1604 Narrow-leaved Ironbark - Grey Box - Spotted Gum shrub - grass woodland of the Central and Lower Hunter<br><i>Regeneration</i>             | 10.9            | Central Hunter Ironbark – Spotted Gum - Grey Box Forest in the NSW North Coast and Sydney Basin Bioregions EEC                                                                                                                                                                                                 | Central Hunter Valley Eucalypt Forest and Woodland CEEC.                                                                                                                                                                                                                                                                                             |

Table 4-15: Threatened Species at the Brosi Stewardship Site

| Species Name                                                   | BC Act Status | EPBC Status | Further Information on Records                             |
|----------------------------------------------------------------|---------------|-------------|------------------------------------------------------------|
| Large bent-winged bat<br><i>Miniopterus orianae oceanensis</i> | V             | -           | Recorded on site during targeted surveys in 2015 and 2017. |

Key management activities included in the Brosi BSS Management Plan include:

- Redundant fence removal;
- Infrastructure and waste removal;
- Weed and feral animal control;
- Active revegetation;
- Controlled burning; and
- Baseline and ongoing monitoring.

#### 4.5.2.6 South Wambo Biodiversity Stewardship Site

The South Wambo Stewardship Site is located adjacent to the south-western boundary of the United Wambo Project Area. It is located northwest of the Bulga township and approximately 1.5 km east of Wollemi National Park (refer to **Figure 4-3**).

The South Wambo Biodiversity Stewardship Site is 266.1 hectares in size. The Mitchell landscape is described as Central Hunter Foothills and Central Hunter Alluvial Plains and Yengo Plateau. The site is located in the Hunter-Central Rivers major catchment area, with North Wambo Creek, a fifth order creek, and Stony Creek, a fourth order creek, flowing through.

The South Wambo Biodiversity Stewardship Site contains the following key biodiversity features relevant for the offsetting strategy for the Project:

- 210.3ha of vegetation that conforms to the *Central Hunter Valley Eucalypt Forest and Woodland CEEC under the EPBC Act* (and 31.5 hectares of grassland able to be restored to conform to the CEEC);
- 124.1 ha of Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions EEC under the BC Act;
- 2.6ha of *Hunter Valley Weeping Myall (Acacia pendula) Woodland CEEC* under the BC Act and EPBC Act;
- 2.8 ha of *Hunter Floodplain Red Gum Woodland EEC* under the BC Act;
- 47 ha of *Hunter Valley Foothills Slaty Gum Woodland VEC* under the BC Act;
- woodland and forest habitat suitable key threatened species such as spotted-tailed quoll (*Dasyurus maculatus*), regent honeyeater (*Anthochaera phrygia*) and swift parrot (*Lathamus discolor*); and
- riparian habitat associated with a fourth or fifth order stream being a tributary of North Wambo Creek and Stony Creek.

Surveys of the South Wambo Stewardship Site identified eight Plant Community Types (PCTs) across twelve condition classes (vegetation zones) being:

- PCT116 Weeping Myall - Coobah - Scrub Wilga Shrubland of the Hunter Valley
  - Moderate to Good
  - Regeneration
- PCT485 River Oak Riparian Grassy Tall Woodland of the Western Hunter Valley
  - Moderate to Good
- PCT922 Melaleuca decora Low Forest of the Central Hunter Valley

- Moderate to Good
- PCT1598 Forest Red Gum Grassy Open Forest on Floodplains of the Lower Hunter
  - Moderate to Good
- PCT1655 Grey Box - Slaty Box Shrub - Grass Woodland on Sandstone Slopes of the Upper Hunter and Sydney Basin
  - Moderate to Good
  - Disturbed
- PCT1691 Narrow-leaved Ironbark – Grey Box Grassy Woodland of the Central and Upper Hunter
  - Moderate to Good
  - Derived Native Grassland
  - Regeneration
- PCT1692 Bull Oak grassy Woodland of the Central Hunter Valley
  - Moderate to Good
- PCT1731 – Swamp Oak - Weeping Grass Grassy Riparian Forest of the Hunter Valley
  - Moderate to Good

Nine of the vegetation zones described above and mapped within the South Wambo Stewardship Site conform to State and Commonwealth listed TECs. The vegetation zones and corresponding TECs are listed in **Table 4-16**. Additionally, two threatened species have been identified within the South Wambo Offset, as described in **Table 4-17**.

*Table 4-16: South Wambo Offset Threatened Ecological Communities*

| PCT<br><i>Condition</i>                                                                              | Total Area (ha) | BC Act TEC                                | EPBC Act TEC                                               |
|------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------|------------------------------------------------------------|
| 116 Weeping Myall - Coobah - Scrub Wilga shrubland of the Hunter Valley<br><i>Moderate to Good</i>   | 1.0             | Hunter Valley Weeping Myall Woodland CEEC | Hunter Valley Weeping Myall (Acacia pendula) Woodland CEEC |
| 116 Weeping Myall - Coobah - Scrub Wilga shrubland of the Hunter Valley<br><i>Regeneration</i>       | 1.6             | Hunter Valley Weeping Myall Woodland CEEC | Hunter Valley Weeping Myall (Acacia pendula) Woodland CEEC |
| 1598 Forest Red Gum grassy open forest on floodplains of the lower Hunter<br><i>Moderate to Good</i> | 2.8             | Hunter Floodplain Red Gum Woodland EEC    | -                                                          |

| PCT<br><i>Condition</i>                                                                                                                 | Total Area (ha)                                                                                                                  | BC Act TEC                                      | EPBC Act TEC                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PCT1655 Grey Box - Slaty Box shrub - grass woodland on sandstone slopes of the upper Hunter and Sydney Basin<br><i>Moderate to Good</i> | 34.3                                                                                                                             | Hunter Valley Footslopes Slaty Gum Woodland VEC | Central Hunter Valley Eucalypt Forest and Woodland CEEC                                                                                                                                                                                                    |
| PCT1655 Grey Box - Slaty Box shrub - grass woodland on sandstone slopes of the upper Hunter and Sydney Basin<br><i>Disturbed</i>        | 12.7                                                                                                                             | Hunter Valley Footslopes Slaty Gum Woodland VEC | Central Hunter Valley Eucalypt Forest and Woodland CEEC                                                                                                                                                                                                    |
| 1691 Narrow-leaved Ironbark – Grey Box grassy woodland of the central and upper Hunter<br><i>Derived Native Grassland</i>               | 2.4 ha of this veg zone currently conforms to the CEEC.<br><br>31.5 ha of this zone will be revegetated to future CEEC condition | -                                               | Parts of this vegetation zone conform to Central Hunter Valley Eucalypt Forest and Woodland CEEC where it occurs in gaps between patches of woodland which are consistent with the CEEC. All remaining areas of this zone will be restored to future CEEC. |
| 1691 Narrow-leaved Ironbark – Grey Box grassy woodland of the central and upper Hunter<br><i>Moderate to Good</i>                       | 121.2                                                                                                                            | Central Hunter Grey Box – Ironbark Woodland EEC | Central Hunter Valley Eucalypt Forest and Woodland CEEC                                                                                                                                                                                                    |
| 1691 Narrow-leaved Ironbark – Grey Box grassy woodland of the central and upper Hunter<br><i>Regeneration</i>                           | 2.9                                                                                                                              | Central Hunter Grey Box – Ironbark Woodland EEC | Central Hunter Valley Eucalypt Forest and Woodland CEEC                                                                                                                                                                                                    |
| 1692 Bull Oak grassy woodland of the central Hunter Valley<br><i>Moderate to Good</i>                                                   | 36.8 ha of this zone conforms to the CEEC                                                                                        | -                                               | Parts of this zone, where the appropriate density of diagnostic trees occur, conform to:<br><br>Central Hunter Valley Eucalypt Forest and Woodland CEEC                                                                                                    |

Table 4-17: Threatened Species at the South Wambo Stewardship Site

| Species Name                              | BC Act Status | EPBC Status | Further Information on Records                                     |
|-------------------------------------------|---------------|-------------|--------------------------------------------------------------------|
| Acacia pendula – endangered population    | E             | -           | Recorded on site during BAM assessments.                           |
| Southern myotis<br><i>Myotis Macropus</i> | V             | -           | Tentatively recorded (not sufficient evidence to generate credits) |

Key management activities included in the South Wambo BSS Management Plan include:

- Redundant fence removal;
- Infrastructure and waste removal;
- Weed and feral animal control;
- Active revegetation;
- Controlled burning; and
- Baseline and ongoing monitoring.

#### 4.5.3 EPBC Offset Requirements

As per the detailed Assessments of Significance prepared for the EPBC Referral, *Central Hunter Valley Eucalypt Forest and Woodland critically endangered ecological community (CEEC)* was found to be significantly impacted as a result of the Project. Following submission of the Referral, the following MNES were considered by DoEE to be potentially significantly impacted by the Project:

- Central Hunter Valley Eucalypt Forest and Woodland CEEC;
- regent honeyeater (*Anthochaera phrygia*);
- swift parrot (*Lathamus discolor*); and
- spotted-tailed quoll (*Dasyurus maculatus maculatus*).

All of the required credits in Stage 1 for the Central Hunter Valley Eucalypt Forest and Woodland CEEC and the other MNES listed above have been secured through land-based offsets as the Commonwealth Government has not currently accredited the use of the Offset Fund for retirement for credits required for Matters of National Environmental Significance (MNES). Offsetting requirements for Stage 2 and Stage 3 for the Central Hunter Valley Eucalypt Forest and Woodland CEEC are also proposed to be secured through either land-based offsets or the purchase of biodiversity credits on the credit market (which is also permissible).

In accordance with the EPBC Act Environmental Offset Policy (DSEWPC 2012), the Biodiversity Offset Strategy has been developed with the aim to maintain and improve biodiversity with a focus on habitats for threatened species in the Hunter Valley and the CEEC. With the inclusion of substantial areas of woodland and forest restoration at the Wambo, Highfields, Mangrove, Jerrys Plains and Brosi Biodiversity Stewardship Sites, it is predicted that such an improvement will occur.

The offset sites have been secured with a BSA which provides in-perpetuity protection and funding for management and improvement of the biodiversity of the site. Each of the offset sites is on land wholly owned by United/Glencore or Wambo.

In relation to the area of ecological mine rehabilitation to be restored to the Central Hunter Valley Eucalypt Forest and Woodland CEEC, United is committed to securing this area using an appropriate in-perpetuity conservation mechanism following the achievement of the completion criteria outlined in the RMP and the closure of the mine. The mechanism for in-perpetuity conservation may be a BSA, or similar mechanism available at the time, and will be determined in consultation with DoEE as part of the mine closure process at the end of the mine life.

**Table 4-18** provides a summary of the key impacts and the minimum area of offsets proposed for Stage 1 impacts for the listed MNES above. The minor differences between the actual areas of MNES at each finalised BSS and the predicted area in the EIS is currently being dealt with through an *Assessment of Reasonable Equivalence* with DPIE and the BCT.

**Table 4-19** provides a specific breakdown of the Central Hunter Valley Eucalypt Forest and Woodland CEEC impact and offset outcomes.

*Table 4-18: Summary of Impact and Offset Areas for MNES*

| MNES                                                    | Impact Area (ha)<br>ALL STAGES | Proposed Offset Area (ha)<br>STAGE 1*    | Offset Ratio<br>Proposed Offsets |
|---------------------------------------------------------|--------------------------------|------------------------------------------|----------------------------------|
| Central Hunter Valley Eucalypt Forest and Woodland CEEC | 246.8<br>(known habitat)       | 185.8 ha<br>at Wambo Offset Site         | <b>5.3:1</b>                     |
|                                                         |                                | 246.8 ha<br>at Jerrys Plains Offset Site |                                  |
|                                                         |                                | 137.2 ha<br>at Brosi Offset Site         |                                  |
|                                                         |                                | 241.8 ha<br>at South Wambo Offset site   |                                  |
|                                                         |                                | 505.8 ha<br>in mine rehabilitation       |                                  |
| <b>Total</b>                                            | <b>246.8</b>                   | <b>1314.0</b>                            |                                  |
| Regent honeyeater<br>( <i>Anthochaera phrygia</i> )     | 203.7<br>(potential habitat)   | 251.6 ha<br>at Wambo Offset Site         | <b>7.5:1</b>                     |
|                                                         |                                | 362.1 ha<br>at Highfields Offset Site    |                                  |
|                                                         |                                | 213.6 ha<br>at Mangrove Offset Site      |                                  |
|                                                         |                                | 246.3 ha<br>at Jerrys Plains Offset Site |                                  |
|                                                         |                                | 194.6 ha<br>at Brosi Offset Site         |                                  |
|                                                         |                                | 257.6 ha<br>at South Wambo Offset site   |                                  |
| <b>Total</b>                                            | <b>203.7</b>                   | <b>1525.8</b>                            |                                  |
| Swift parrot ( <i>Lathamus discolor</i> )               | 203.7<br>(potential habitat)   | 251.6 ha<br>at Wambo Offset Site         | <b>7.5:1</b>                     |
|                                                         |                                | 362.1 ha<br>at Highfields Offset Site    |                                  |
|                                                         |                                | 213.6 ha<br>at Mangrove Offset Site      |                                  |
|                                                         |                                | 246.3 ha<br>at Jerrys Plains Offset Site |                                  |
|                                                         |                                | 194.6 ha<br>at Brosi Offset Site         |                                  |
|                                                         |                                | 257.6 ha<br>at South Wambo Offset site   |                                  |

| MNES                                                         | Impact Area (ha)<br>ALL STAGES | Proposed Offset Area (ha)<br>STAGE 1*    | Offset Ratio<br>Proposed Offsets |
|--------------------------------------------------------------|--------------------------------|------------------------------------------|----------------------------------|
| <b>Total</b>                                                 | <b>203.7</b>                   | <b>1525.8</b>                            |                                  |
| Spotted-tailed quoll ( <i>Dasyurus maculatus maculatus</i> ) | 352.9<br>(potential habitat)   | 259.8 ha<br>at Wambo Offset Site         | <b>4.5:1</b>                     |
|                                                              |                                | 392.6 ha<br>at Highfields Offset Site    |                                  |
|                                                              |                                | 213.6<br>ha at Mangrove Offset Site      |                                  |
|                                                              |                                | 251.4 ha<br>at Jerrys Plains Offset Site |                                  |
|                                                              |                                | 194.6 ha<br>at Brosi Offset Site         |                                  |
|                                                              |                                | 257.6 ha<br>at South Wambo Offset site   |                                  |
| <b>Total</b>                                                 | <b>352.9</b>                   | <b>1569.6</b>                            |                                  |

\*Includes areas to be restored to CEEC condition

Table 4-19: Summary of Impact and Offset Areas for Central Hunter CEEC

| Development Vegetation<br>ALL STAGES |                                |               |               | Offset Vegetation<br>STAGE 1 |                 |               |             |              |  |  |
|--------------------------------------|--------------------------------|---------------|---------------|------------------------------|-----------------|---------------|-------------|--------------|--|--|
| BVT                                  | BVT Condition                  | BBAM Credits  | Area (ha)     | Site                         | BVT             | BVT Condition | BAM Credits | Area (ha)    |  |  |
| HU816                                | Plantation                     | 59            | 1.17          | WAMBO                        | HU618 / PCT1176 | Mod/Good      | 591         | 81.2         |  |  |
| HU869                                | Mod/Good                       | 108           | 1.56          |                              |                 | Regen         | 27          | 9.6          |  |  |
|                                      |                                |               |               |                              |                 | Regen – Dense | 4           | 1.4          |  |  |
| HU905                                | Mod/Good                       | 9,035         | 140.98        |                              | HU817 / PCT1603 | Mod/Good      | 70          | 28.2         |  |  |
|                                      | Regen                          | 1,087         | 24.32         |                              |                 | Regen         | 61          | 13.0         |  |  |
|                                      | Thinned                        | 3             | 0.08          |                              |                 | DNG           | 189         | 48.4         |  |  |
|                                      | Derived Native Grassland (DNG) | 350           | 12.79         |                              |                 | Cooba         | 16          | 4.0          |  |  |
| HU906                                | Mod/Good                       | 3,835         | 65.86         |                              | <b>Subtotal</b> |               | <b>958</b>  | <b>185.8</b> |  |  |
| <b>TOTAL</b>                         |                                | <b>14,477</b> | <b>246.76</b> | JERRYS PLAINS                | HU618 / PCT1176 | Mod/Good      | 682         | 147          |  |  |
|                                      |                                |               |               |                              |                 | Regen         | 140         | 44.9         |  |  |
|                                      |                                |               |               |                              |                 | DNG           | 88          | 24.1         |  |  |
|                                      |                                |               |               |                              | HU905 / PCT1691 | Mod/Good      | 65          | 27.3         |  |  |
|                                      |                                |               |               |                              |                 | Regen         | 9           | 1.7          |  |  |

| Development Vegetation<br>ALL STAGES |                                       | Offset Vegetation<br>STAGE 1 |           |               |               |
|--------------------------------------|---------------------------------------|------------------------------|-----------|---------------|---------------|
|                                      |                                       | <b>Subtotal</b>              |           | <b>984</b>    | <b>245</b>    |
|                                      | <b>BROSI</b>                          | HU818 /<br>PCT1604           | Mod/Good  | 602           | 103.3         |
|                                      |                                       |                              | Regen     | 75            | 10.9          |
|                                      |                                       |                              | DNG       | 90            | 23.0          |
|                                      |                                       | <b>Subtotal</b>              |           | <b>767</b>    | <b>137.2</b>  |
|                                      | <b>SOUTH<br/>WAMBO</b>                | HU869 /<br>PCT1655           | Mod/Good  | 196           | 34.3          |
|                                      |                                       |                              | Disturbed | 46            | 12.7          |
|                                      |                                       | HU905 /<br>PCT1691           | Mod/Good  | 895           | 121.2         |
|                                      |                                       |                              | Regen     | 15            | 2.9           |
|                                      |                                       |                              | DNG       | 181           | 34.8          |
|                                      |                                       | HU906 /<br>PCT1692           | Mod/Good  | 196           | 36.8          |
|                                      |                                       | <b>Subtotal</b>              |           | 1513          | 254.3         |
|                                      | <b>ECOLOGIC<br/>AL MINE<br/>REHAB</b> | HU905 /<br>PCT1691           | Rehab     | 2,437         | 505.8         |
|                                      |                                       | <b>Subtotal</b>              |           | <b>2,437</b>  | <b>505.8</b>  |
|                                      |                                       | <b>TOTAL</b>                 |           | <b>11,287</b> | <b>1337.2</b> |

## 5. Measurement and Evaluation

### 5.1 Monitoring

United Wambo will implement formal monitoring programs and due diligence assessments that periodically examine measurable changes over time and provide information on impacts and the success or otherwise of Biodiversity mitigation actions, and as such will be used to provide for the Biodiversity Management Plan to be reviewed and adapted when required

The frequency and level of monitoring will be dependent on the environmental features to be assessed. The techniques will be targeted, systematic and repeatable.

The outcomes of biodiversity monitoring will be used to provide for the management plan to be reviewed and adapted in response to new information.

The monitoring and inspection program is split into three discrete areas:

- On site infrastructure areas and buffer lands;
- On site rehabilitation areas; and
- Biodiversity Stewardship Sites.

These monitoring and inspections programs are discussed in the following sections.

### 5.1.1 Mine Rehabilitation Monitoring

A detailed rehabilitation monitoring program has developed for mine rehabilitation at United Wambo, including ecological mine rehabilitation. The monitoring program includes the following components:

- Analogue reference site monitoring. Analogue sites are used to establish performance benchmarks against the completion criteria and rehabilitation objectives and are shared across Glencore's Hunter Valley sites to ensure sufficient replication and spatial coverage.
- Initial Establishment Monitoring (IEM): IEM is a rapid style assessment principally to determine germination success and landform stability. Each monitoring site is assessed twice within the first three years, and includes erosion, bare ground, ground cover, weed cover, species composition and tree stem density.
- Long Term Monitoring (LTM): The LTM methods include more detailed assessments of rehabilitation performance and are targeted towards evaluating progress of rehabilitation towards fulfilling completion criteria and, ultimately, the targeted post-mining land use. The survey methodology for the rehabilitation flora monitoring has been designed to be in line with the Biodiversity Assessment Methodology (BAM).
- Habitat Assessment: A habitat assessment is completed to assess the presence and suitability of habitat features within the rehabilitation areas for native and threatened species.

The LTM monitoring methodology will be used to assess the whether the areas of ecological mine rehabilitation have met the required criteria and confirm to the required PCTs.

Further details on the mine rehabilitation program are included in the ***United Wambo Rehabilitation Management Plan***.

### 5.1.2 Stewardship Site Ecological Monitoring Program

A detailed ecological monitoring program has been developed for each BSS and included in the sites individual Management Plans. The monitoring programs include the following key components:

- Photo monitoring;
- Quarterly land management inspections;
- Ecological response monitoring (vegetation integrity);
- Controlled burn monitoring;
- Revegetation success monitoring; and
- Targeted species monitoring (threatened or weed species dependant upon site).

Further details including monitoring methodologies and timing are included in the individual ***BSS Management Plans***.

In addition to the monitoring specified in the BSS Management Plans, United Wambo will undertake additional annual monitoring in accordance with the Glencore Biodiversity Report Card. The intention

of this monitoring is to track progress towards meeting the BSS criteria between statutory monitoring events and to provide regular management recommendations.

## 5.2 Compliance Management

Compliance management is an ongoing process and is conducted in accordance with the **United Wambo EM Strategy** – which provides the process for planning and executing the assurance program. The main assurance process conducted by United Wambo include:

- workplace interactions and planned task observations;
- inspections; and
- audits
  - validation of monitoring data;
  - internal audits; and
  - external audits.

For further details, refer to the **United Wambo EM Strategy**.

### 5.2.1 Inspection - On Site and Buffer Lands

Inspections will be conducted on mine (rehabilitation, native vegetation) and buffer lands. These assess:

- the condition of site features such as fences, gates and access tracks;
- any evidence of unauthorised access or stock grazing;
- areas of erosion or sedimentation;
- weed infestations;
- evidence of pest fauna; and
- adequacy of bushfire management, including fuel loads, water availability and access.

Any required management actions that are identified as part of the inspection will be implemented as soon as practical, with actions recorded in CMO. Where necessary, management strategies will be amended accordingly with the aim of continually improving the success of the management strategies.

## 5.3 Complaints

All complaints received by United Wambo are managed in accordance with the **United Wambo EM Strategy**, which details the process to ensure complaints are properly documented and handled in accordance with statutory requirements and company policy. A summary of complaint and grievance management includes:

- acknowledging all complaints by contacting the complainant to discuss the details of the complaint within 24 hours of receipt, where requested/practicable;
- investigating complaints impartially giving proper consideration to the facts and the circumstances prevailing at the time;
- implementing corrective actions if required;
- reporting investigation outcomes and corrective actions taken to the complainant; and

- all complaints are recorded in the compliance management system.
- Community members can raise a complaint/grievance 24 hours/7 days a week by calling the community response line on 1800 801 440.

For further details, refer to the **United Wambo EM Strategy**.

## 5.4 Incidents, Non-compliance Management

All incidents recorded at United Wambo are managed in accordance with the **United Wambo EM Strategy**, which details the process to ensure incidents are properly documented, investigated and reported in accordance with statutory requirements and company policy. Incident and non-compliance management includes:

- all personnel (United Wambo employees and contractors) are required to report environmental incidents/non-compliances to their immediate supervisor/site contact;
- the Supervisor or site contact contacts a member of the United Wambo Environment and Community Department (E&C Department), immediately after becoming aware of the incident/non-compliance;
- the E&C Department determines the appropriate corrective or preventative action required to remediate or prevent a reoccurrence of the incident/non-compliance; and
- the details and final investigation results from all environmental incidents/non-compliance are recorded in the site compliance system

For further details, refer to the **United Wambo EM Strategy**.

Incidents which are reportable to an external stakeholder are outlined in **Table 5-1**

*Table 5-1: Reportable Incidents and Non-compliances*

| Incident                                                                         | Stakeholder                                 | Trigger                                     |
|----------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|
| Material harm or unapproved impact to land, biodiversity or ecological community | DPHI<br>BCD<br>DCCEW<br>Resources Regulator | Visual inspection, or employee notification |

## 5.5 Reporting/Access to Information

Reporting biodiversity monitoring results and performance will be undertaken in accordance with the schedule outlined in the **EM Strategy, Section 5.5**.

Additionally, an EPBC Compliance Report will be prepared and submitted annually in accordance with Condition 10 of **EPBC 2015-7600**.

## 5.6 Record Keeping

All environmental monitoring data is maintained in accordance with the **EM Strategy** and maintained on the premise for a period of four years.

## 6. Review and Improvement

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### 6.1 Continuous Improvement and Adaptative Management

Where possible, United Wambo will implement all reasonable and feasible best practice biodiversity mitigation measures. The basis for continuous improvement of biodiversity mitigation measures will be through the ongoing monitoring of impacts and the corrective/preventative action process outlined in the **United Wambo EM Strategy**.

Adaptive management of the BioMP will be responsive to any new and relevant data that may arise through the monitoring and inspections described in **Section 5.1**, legislative change or any other studies completed across United Wambo and the BSSs. This will enable a flexible approach to management commitments, allowing ongoing feedback and refinement of the BioMP. Adaptive Management will be a key mechanism to address the risks to the successful implementation of the BioMP. Adaptive management steps include regular review of the BioMP, including adaptation of targets and performance indicators, recognising potential risks to the successful implementation of the BioMP and having a framework in place for corrective actions.

The main avenues for continuous improvement are through site evaluation processes, which includes:

- Monitoring (**Section 5.1**)
- Compliance Management (**Section 5.2**)
- Complaint Management (**Section 5.3**)
- Incident and Non-compliance Management (**Section 5.4**)

### 6.2 Plan Review

This BioMP and associated documents will be reviewed in accordance with **SSD 7142** and the United Wambo **EM Strategy**. Where changes to the BioMP (including management measures or monitoring programs) are required, the DPHI will approve the proposed changes prior to implementation.

### 6.3 Change Management

All changes to operations, facilities, plant equipment and production processes are required to be assessed in accordance with the change management process.

Change management will be undertaken at United Wambo in accordance with the **United Wambo EM Strategy**, which provides the process for managing the risks associated with change. For further details, refer to the **United Wambo EM Strategy**.

## 7. Accountabilities

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The following accountabilities have been prepared and designed in line with the organisational structure, roles and responsibilities identified in the Final Draft for Environmental Management Plan – Post Approval Requirements Series July 2017 (DPE 2017).

*Table 7-1: Accountabilities*

| Role                                         | Accountabilities for this Document                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operations Manager                           | <ul style="list-style-type: none"> <li>Ensure that sufficient resources are allocated for the implementation of this BioMP.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Environment & Community Manager              | <ul style="list-style-type: none"> <li>Ensure that sufficient time and resources are allocated to allow for the implementation of long-term ecological management and enhancement strategies for the BSSs.</li> <li>Allocate sufficient resources and time for the implementation of the BioMP monitoring programs.</li> <li>Ensure that the results of the BioMP monitoring programs and research trials are utilised to refine closure criteria as well as to evaluate the effectiveness of regeneration/rehabilitation practices so as to facilitate continual improvement.</li> <li>Periodically review progress against performance indicators and completion criteria.</li> <li>Ensure all internal and external reporting requirements are met, including necessary revisions of the BioMP.</li> <li>Ensure that all relevant records are effectively maintained on site.</li> <li>Authorisation of essential clearing activities in accordance with the BioMP through the Ground Disturbance Permit process.</li> </ul> |
| Environment & Community Coordinator/ Officer | <ul style="list-style-type: none"> <li>Coordinate the day-to-day implementation of this BioMP, including the design and implementation of ecological management activities and as delegated by the Environment and Community Manager.</li> <li>Coordinate monitoring requirements as per the BioMP and Glencore standards.</li> <li>Coordinate reporting requirements relating to rehabilitation in the Annual Review (AR).</li> <li>Ensure that personnel involved in the carrying out and monitoring of the BioMP activities are appropriately qualified, licensed and experienced to undertake the task.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                          |
| All Persons                                  | <ul style="list-style-type: none"> <li>Undertake activities directly in accordance with the requirements of the BioMP.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## 8. Acronyms and Definitions

Figure 8-1 summarises the acronyms and definitions relating to this BioMP.

*Figure 8-1: Acronyms and Definitions*

| Term  | Description                         |
|-------|-------------------------------------|
| AS    | Australian Standard                 |
| BioMP | Biodiversity Management Plan        |
| CHPP  | Coal Handling and Preparation Plant |
| CO    | Carbon Monoxide                     |

| Term        | Description                                                       |
|-------------|-------------------------------------------------------------------|
| DPE         | NSW Department of Planning and Environment                        |
| DPHI        | Department of Planning, Housing and Infrastructure (formerly DPE) |
| ECC         | Environment and Community Coordinator                             |
| ECM         | Environment and Community Manager                                 |
| ECO         | Environment and Community Officer                                 |
| EIS         | Environmental Impact Statement                                    |
| EMS         | Environmental Management Strategy                                 |
| EM Strategy | United Wambo Environmental Management Strategy                    |
| EPA         | NSW Environment Protection Authority                              |
| EPL3141     | Environment Protection Licence 3141                               |
| MEU         | Mining and Energy Union                                           |
| MOD         | Modification                                                      |
| NSW         | New South Wales                                                   |
| ROM         | Run of Mine                                                       |
| SSD         | State Significant Development                                     |
| SOC         | Statement of Commitments                                          |
| SPMP        | Social Performance Management Plan                                |
| SSD7172     | Development Consent SSD7142                                       |
| TARP        | Trigger Action Response Plan                                      |

## 9. Document Information

Relevant legislation, standards and other reference information must be regularly reviewed and monitored for updates and should be included in the site management system. Related documents and reference information in this section provides the linkage and source to develop and maintain site compliance information.

## 9.1 Related Documents

Related documents, listed in **Table 9-1** below, are *documents* directly related to or referenced from within this document.

*Table 9-1: Related documents*

| Number              | Title                                          |
|---------------------|------------------------------------------------|
| UWOC-1689771511-348 | United Wambo Rehabilitation Management Plan    |
| UWOC-1689771511-360 | United Wambo Environmental Management Strategy |
| UWOC-1796953183-3   | United Wambo Fire Management Plan              |

## 9.2 Reference Information

Reference information, listed in **Table 9-2** below, is *information* that is directly referred to for the development of this document.

*Table 9-2: Reference information*

| Reference              | Title                                                                                                                                                                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chessman et al. 1997   | <i>Objective derivation of macro-invertebrate family sensitivity grade numbers for the SIGNAL biotic index: application to the Hunter River system, NSW Mar. Freshwater Res. 48: 159-172, Chessman, B.C., Growns, J.E. and Kotlash, A.R., 1997</i> |
| DPI 2018               | <i>Weed Control Handbook, NSW Department of Primary Industries, 2018</i>                                                                                                                                                                           |
| DPE 2017               | <i>Final Draft for Environmental Management Plan – Post Approval Requirements Series July 2017</i>                                                                                                                                                 |
| DoEE                   | <i>Environment Protection and Biodiversity Conservation Act 1999</i>                                                                                                                                                                               |
| FloraBank 2013         | <i>Florabank Guidelines for Seed Collection and Use, Florabank</i>                                                                                                                                                                                 |
| Jansen et al. 2003     | <i>Development and application of a method for the rapid appraisal of riparian condition. River Management Technical Guideline No. 4, Land and Water Australia, Canberra, Jansen, A., Robertson, A., Thompson, L. and Wilson, A. 2003</i>          |
| Jansen et al. 2005     | <i>Rapid Appraisal of Riparian Condition (Version 2). River and Riparian Technical Guideline. Land and Water Australia, Canberra, Jansen, A., Robertson, A., Thompson, L. and Wilson, A., 2005</i>                                                 |
| NSW EPA                | <i>Pesticides Act 1999</i>                                                                                                                                                                                                                         |
| NSW Rural Fire Service | <i>Bush Fire Environmental Assessment Code, NSW Rural Fire Service, 2021</i>                                                                                                                                                                       |
| OEH                    | <i>Biodiversity Conservation Act 2016</i>                                                                                                                                                                                                          |
| OEH 2010               | <i>Central Hunter Ironbark – Spotted Gum – Grey Box Forest EEC – Final Determination. NSW Scientific Committee, gazettal date 12/02/2010</i>                                                                                                       |
| OEH 2014a              | <i>NSW Biodiversity Offsets Policy for Major Projects, Office of Environment and Heritage, September 2014</i>                                                                                                                                      |
| OEH 2014b              | <i>Framework for Biodiversity Assessment – NSW Biodiversity Offsets Policy for Major Projects, Office of Environment and Heritage, September 2014</i>                                                                                              |

| Reference                | Title                                                                                                                                                                                                        |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OEH 2014c                | <i>BioBanking Assessment Methodology 2014</i> , Office of Environment and Heritage, September 2014                                                                                                           |
| OEH 2015a                | <i>Draft Upper Hunter Strategic Assessment Guidelines for the Mitigation of Coal Mining Impacts on Biodiversity</i> , Office of Environment and Heritage, provided to Glencore 17 December 2015              |
| OEH 2015b                | <i>Draft Guidelines for the Ecological Rehabilitation of Recognisable and Self-sustaining Plant Community Types for the UHSA</i> , Office of Environment and Heritage, provided to Glencore 17 December 2015 |
| OEH 2016                 | <i>BioNet Atlas of NSW Wildlife</i> , <a href="http://www.bionet.nsw.gov.au/">http://www.bionet.nsw.gov.au/</a> accessed February 2016, Office of Environment and Heritage                                   |
| OEH 2017                 | <i>Biodiversity Assessment Method, Consultation Draft</i> , Office of Environment and Heritage, May 2017                                                                                                     |
| Peterson R.C. 1992.      | <i>The RCE: a Riparian, Channel, and Environmental Inventory for small streams in the agricultural landscape</i> , Freshwater Biology, No. 21, pp. 295 – 306.                                                |
| Rawlings et al. 2010     | <i>A guide to managing box gum grassy woodlands</i> . Department of the Environment, Water, Heritage and the Arts, Canberra, Rawlings, K., Freudenberger, D. and Carr, D., 2010.                             |
| Serov et al. 2012        | <i>Risk Assessment Guidelines for Groundwater Dependent Ecosystems</i>                                                                                                                                       |
| Tongway and Hindley 2004 | <i>Landscape Function Analysis. Procedures for monitoring and assessing landscapes</i> . CSIRO Sustainable Ecosystems, Canberra, Tongway, D. and Hindley, L., 2004.                                          |
| Turak et al. 2004        | New South Wales (NSW) Australian River Assessment System (AUSRIVAS) – Sampling and Processing Manual, Department of Environment and Conservation, Sydney, Turak, E., Waddell N., Johnstone G., 2004.         |
| Umwelt 2015              | <i>Upper Hunter Strategic Assessment – United Collieries Biodiversity Certification Assessment Report</i> , Umwelt, 2015                                                                                     |
| Umwelt 2016              | <i>United Wambo Open Cut Coal Mine Project – Upper Hunter Strategic Assessment Statement of Consistency Report – Final August 2016</i> , Umwelt, August 2016                                                 |
| Umwelt 2016              | <i>United Wambo Open Cut Coal Mine Project, Environmental Impact Statement</i> , August 2016                                                                                                                 |
| Umwelt 2017              | <i>United Wambo Open Cut Coal Mine Project, Response to Submissions Part B, Umwelt May 2017 (RTS), including the Biodiversity Assessment Report, Appendix 4</i> , Umwelt, May 2017                           |
| Umwelt 2017              | <i>United Wambo Open Cut Coal Mine Project, Response to Request for Further Information</i> , September 2017                                                                                                 |
| Umwelt 2018a             | <i>United Wambo Open Cut Coal Mine Project, Response to Independent Planning Commission Recommendations, Umwelt July 2018, including Addendum Report for Additional Offset Sites</i> , Umwelt, May 2018      |
| Umwelt 2018b             | <i>United Wambo Open Cut Coal Mine Project – Request for Additional Information, letter to Department of Planning and Environment, Umwelt October 2018.</i>                                                  |

## 9.3 Change Information

Full details of the document history are recorded in the document control register, by version. A summary of the current change is provided in **Table 9-3** below.

*Table 9-3: Change information*

| Version | Date          | Change Details                                                                                                                                                                                                                                                                                                                                                                              |
|---------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.0     | November 2019 | Consideration of comments on draft from DPIE received 11 October 2019, no comments were received from BCD. Updated to include conditions from proposed Controlled Action Approval received 7 November 2019 and further information on MNES.<br>Approved 11/11/2019                                                                                                                          |
| 2.0     | June 2020     | Updated to new template and reviewed for Phase 1B<br>Approved 13/07/2020                                                                                                                                                                                                                                                                                                                    |
| 3.0     | July 2020     | Updated for Phase 2<br>Approved 19/11/2020                                                                                                                                                                                                                                                                                                                                                  |
| 4.0     | November 2020 | Updated Biodiversity Offset Strategy                                                                                                                                                                                                                                                                                                                                                        |
| 5.0     | April 2022    | Reviewed and updated in accordance with Condition E7 – Modification 1. Addition of South Wambo offset information and update to Biodiversity Offset Strategy. Updated references to Bush Fire Environmental Assessment Code (RFS, 2021) and updated text in S14.2, following Phase 2 BioMP review.                                                                                          |
| 6.0     | August 2022   | No change - Minor formatting and revision of version number                                                                                                                                                                                                                                                                                                                                 |
| 7.0     | Feb 2023      | Updated DPE approval inserted. No other changes. To be reviewed following Annual Review.                                                                                                                                                                                                                                                                                                    |
| 8.0     | August 2024   | Updated to reflect approval of BSSs and strategy for Stage 2 and Stage 3 offsets. Refinement of details included in other United Wambo management plans.<br>Updated following 2023 IEA. Key changes have been outlined in a Summary of Changes Document provided to DPHI.<br>Finalisation of Stage 1 BSA offsets.                                                                           |
| 9.0     | December 2025 | Section 4.5.1.2: Updated to document the finalisation of biodiversity credit retirement for Stages 2 and 3 in April 2025.<br>Appendix A – Statutory Requirements: Updated following receipt of the EPBC 2015/7600 Variation dated 7 July 2025.<br>Appendix K – Biodiversity Credit Retirement: Included to provide evidence confirming the retirement of the relevant biodiversity credits. |

## Appendix A - Statutory Requirements

| Source  | Reference              | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SSD7142 | SSD 7142 Condition B55 | <p>The Applicant must retire the biodiversity credits specified in Table 5 below, or the equivalent number of credits (calculated in accordance with the BC Act) as set out in the Biodiversity Management Plan, to offset the biodiversity impacts of the development. The retirement of credits must be carried out in consultation with OEH and in accordance with the Biodiversity Offsets Scheme of the BC Act, to the satisfaction of the BCT.</p> <p>Table 5: Biodiversity credit requirements</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>To identify the surface disturbance areas associated with each Stage in Table 5 refer to the applicable figure in Appendix 6, or as updated in the approved Biodiversity Management Plan. Stages 1, 2 and 3 broadly correspond to Years 0 - 7, 8 - 14 and 15 - 23 of the period specified in condition A9.</li> <li>The credits in Table 5 were calculated in accordance with Framework for Biodiversity Assessment of the NSW Biodiversity Offset Policy for Major Projects (OEH, 2014) and may need to be converted to reasonably equivalent 'biodiversity credits', within the meaning of the BC Act, if the credits are to be retired in accordance with the Biodiversity Offsets Scheme of the BC Act.</li> <li>The CEEC credits in Table 5 can only be discharged through payment into the NSW Biodiversity Conservation Fund if this fund has been endorsed by the Commonwealth Minister responsible for administering the EPBC Act.</li> </ul> |
| SSD7142 | SSD 7142 Condition B56 | <p>Within 12 months of commencing Phase 1A, or other timeframe agreed by the Planning Secretary, the Applicant must retire the Stage 1 credits as specified in Table 5, excluding ecosystem credits to be satisfied using Ecological Mine Rehabilitation. The Applicant must notify the Planning Secretary of its intention to satisfy Stage 1 credits using Ecological Mine Rehabilitation and provide details of the particular ecosystem credits proposed to be satisfied in this manner within 12 months of commencing Phase 1A.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SSD7142 | SSD 7142 Condition B57 | <p>Prior to the commencement of surface disturbance associated with both Stage 2 and Stage 3, or other timeframe agreed by the Planning Secretary, the Applicant must retire the credits for these Stages as specified in Table 5, excluding ecosystem credits to be satisfied using Ecological Mine Rehabilitation. The Applicant must notify the Planning Secretary of its intention to satisfy Stage 2 and/or Stage 3 credits using Ecological Mine Rehabilitation and provide details of the particular ecosystem credits proposed to be satisfied in this manner prior to commencing those Stages.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SSD7142 | SSD 7142 Condition B58 | <p>With the agreement of the Planning Secretary, the Applicant may adjust the staging of surface disturbance and the associated credit retirements in Table 5. Except in accordance with condition B59, the relevant credits must be retired, excluding credits to be satisfied using Ecological Mine Rehabilitation, prior to the commencement of the associated surface disturbance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Source  | Reference              | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| SSD7142 | SSD 7142 Condition B59 | With the agreement of the Planning Secretary, the Applicant may carry over surplus retired credits to satisfy the credit requirements of a later stage. This may occur, for example, where approved clearing for an earlier Stage was not undertaken, but the impact has already been offset.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SSD7142 | SSD 7142 Condition B60 | With the agreement of the Planning Secretary, biodiversity credits associated with areas agreed under condition B59 as not to be subject to any surface disturbance may be removed from the total credit obligations in Table 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SSD7142 | SSD 7142 Condition B61 | The Applicant may use Ecological Mine Rehabilitation to satisfy up to 20% of the CEEC ecosystem credit requirements in Table 5. The land used for Ecological Mine Rehabilitation cannot be the same as land used to establish Open Woodland Revegetation under condition B69 and DA 305-7-2003. Conceptual mapping of Ecological Mine Rehabilitation is shown in Appendix 6.                                                                                                                                                                                                                                                                                                                                                                                |
| SSD7142 | SSD 7142 Condition B62 | <p>Within 10 years of the cessation of mining operations, or other timeframe agreed by the Planning Secretary, the Applicant must retire the ecosystem credits generated from Ecological Mine Rehabilitation. If the Ecological Mine Rehabilitation areas do not comply with the residual credit requirements in Table 5 and/or the relevant objectives in Table 6 then the Applicant must retire the residual credit requirements in consultation with OEH and in accordance with the Biodiversity Offsets Scheme of the BC Act, to the satisfaction of the BCT.</p> <p>Note: Rehabilitation offset performance and completion criteria are required to be developed and included in the Rehabilitation Management Plan required under condition B103.</p> |
| SSD7142 | SSD 7142 Condition B63 | If the Applicant elects to undertake Ecological Mine Rehabilitation under condition B56 and/or condition B57, then it must lodge a Conservation Bond with the Planning Secretary to ensure that the Ecological Mine Rehabilitation is successfully implemented or the purchase of residual credit requirements under condition B103 is fully funded. This Bond must be lodged together with the notification required under condition B56 and condition B57, respectively.                                                                                                                                                                                                                                                                                  |
| SSD7142 | SSD 7142 Condition B64 | <p>The sum of the Conservation Bond required in condition B63 is to be the greater of:</p> <ul style="list-style-type: none"> <li>a) the cost of implementing and managing the Ecological Mine Rehabilitation and the retirement of credits generated at third party rates; and</li> <li>b) the cost of acquiring and retiring the equivalent number of ecosystem credits for which Ecological Mine Rehabilitation is to be used; and must be determined by the Applicant employing a suitably qualified, independent and experienced person to verify the calculated costs.</li> </ul>                                                                                                                                                                     |
| SSD7142 | SSD 7142 Condition B65 | The calculation of the Conservation Bond must be submitted to the Department for approval at least 2 months prior to lodgement of the Bond.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Source  | Reference              | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| SSD7142 | SSD 7142 Condition B66 | <p>The Conservation Bond must be reviewed and, if required, an updated bond must be lodged with the Department within 3 months following:</p> <p>(a) any revision of the Rehabilitation Management Plan;</p> <p>(b) the completion of an Independent Environmental Audit containing recommendations relating to the implementation of the Ecological Mine Rehabilitation; or</p> <p>(c) in response to a request by the Planning Secretary,</p>                                                                                                                                                                                                                  |
| SSD7142 | SSD 7142 Condition B67 | <p>If the Applicant provides the Planning Secretary with proof that all biodiversity credits required to be satisfied by Ecological Mine Rehabilitation have been retired, then the Planning Secretary will release the Conservation Bond.</p>                                                                                                                                                                                                                                                                                                                                                                                                                   |
| SSD7142 | SSD 7142 Condition B70 | <p>Within 12 months of commencing Phase 1B, or other timeframe agreed by the Planning Secretary, the Applicant must make suitable arrangements for the long-term protection of 18.5 hectares of compensatory habitat to account for disturbing the previous compensatory habitat area for United Underground Coal Mine (DA 410-11-2002-i).</p> <p>Notes:</p> <p>This requirement is in addition to the credit requirements under condition B55.</p> <p>Suitable arrangements include securing the land under a Biodiversity Stewardship Agreement or by transferring the land to National Parks Estate (along with sufficient funds for ongoing management).</p> |

| Source  | Reference              | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| SSD7142 | SSD 7142 Condition B71 | <p>The Applicant must prepare a Biodiversity Management Plan to the satisfaction of the Planning Secretary. This plan must:</p> <ul style="list-style-type: none"> <li>a) be prepared by a suitably qualified and experienced person/s;</li> <li>b) be prepared in consultation with OEH;</li> <li>c) describe the short, medium, and long-term measures to be undertaken to manage vegetation and fauna habitat on the site;</li> <li>d) describe how biodiversity management would be integrated with similar measures within the Water Management Plan referred to in condition B52 and the Rehabilitation Management Plan referred to in condition B103;</li> <li>e) include a Biodiversity Offset Strategy that: <ul style="list-style-type: none"> <li>i) recalculates, if necessary, in accordance with the BC Act the number of biodiversity credits required under condition B55 to offset the impacts of the development;</li> <li>ii) describes how the biodiversity credits in Table 5 (or as recalculated) will be identified, secured and retired;</li> <li>iii) if adjustments are made to the staging of credit retirements in Table 5 (see conditions B58 and B59), detail the adjusted stages and associated surface disturbance areas; and</li> <li>iv) describes how significantly impacted threatened species and communities listed under the EPBC Act would be suitably offset;</li> </ul> </li> <li>f) describe the measures to be implemented within approved disturbance areas on the site to: <ul style="list-style-type: none"> <li>i) minimise the amount of clearing and employ temporary vegetation strategies (see condition B98);</li> <li>ii) minimise impacts on fauna, including undertaking pre-clearance surveys;</li> <li>iii) provide for the salvage, transplanting and/or propagation of any threatened flora found during pre-clearance surveys, in accordance with the Guidelines for the Translocation of Threatened Plants in Australia (Vallee et al., 2004); and</li> <li>iv) maximise the salvage of resources, including tree hollows, vegetation and soil resources, for beneficial reuse, including fauna habitat enhancement;</li> </ul> </li> </ul> |

| Source                                       | Reference                          | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                                              |                                    | <p>(g) describe the measures to be implemented on the site to:</p> <p>(i) minimise impacts on fauna habitat resources such as hunting and foraging areas, habitat trees, fallen timber and hollow-bearing trees;</p> <p>(ii) enhance the quality of vegetation, vegetation connectivity and wildlife corridors including through the assisted regeneration and/or targeted revegetation of appropriate canopy, sub-canopy, understorey and ground strata;</p> <p>(iii) introduce naturally scarce fauna habitat features such as nest boxes and salvaged tree hollows and promote the use of these introduced habitat features by threatened fauna species;</p> <p>(iv) manage any potential conflicts with Aboriginal heritage values; and</p> <p>(v) protect vegetation and fauna habitat outside of the approved disturbance areas, including stands of Weeping Myall (<i>Acacia pendula</i>);</p> <p>(vi) manage potential indirect impacts on threatened flora and fauna species, including Swift Parrot, Regent Honeyeater, Spotted-tail Quoll and Koala;</p> <p>(vii) manage the collection and propagation of seed from the local area;</p> <p>(viii) control weeds, including measures to avoid and mitigate the spread of noxious weeds;</p> <p>(ix) control feral pests with consideration of actions identified in relevant threat abatement plans;</p> <p>(x) control erosion;</p> <p>(xi) manage any grazing and agriculture;</p> <p>(xii) control access to vegetated or revegetated areas; and</p> <p>(xiii) manage bushfire hazards;</p> <p>(h) include a seasonally-based program to monitor and report on the effectiveness of the above measures, progress against the detailed performance and completion criteria, and improvements that could be implemented to improve biodiversity outcomes;</p> <p>(i) identify the potential risks to the successful implementation of the Biodiversity Offset Strategy, and include a description of the contingency measures to be implemented to mitigate against these risks; and</p> <p>(j) include details of who would be responsible for monitoring, reviewing, and implementing the plan.</p> |
| <b>SSD7142</b>                               | SSD 7142 Condition B72             | The Applicant must not commence Phase 1A until the Biodiversity Management Plan is approved by the Planning Secretary.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>SSD7142</b>                               | SSD 7142 Condition B73             | The Applicant must implement the Biodiversity Management Plan as approved by the Planning Secretary.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>SSD7142 EIS<br/>SOC Mgmt<br/>Measures</b> | SOC_8.0_Management<br>Measures_045 | The Project will avoid direct impacts on the 0.1 hectare stand of Hunter Valley Weeping Myall Woodland of the Sydney Basin Bioregion within the Project Area. The stand will be managed for the recovery of the community and will be fenced to exclude grazing stock and unauthorised intrusions (with an approximate 20 metre buffer between the stand and the fence, where practicable given the location of existing infrastructure).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Source                                       | Reference                          | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>SSD7142 EIS<br/>SOC Mgmt<br/>Measures</b> | SOC_8.0_Management<br>Measures_046 | <p>United will prepare and implement a Biodiversity Management Plan for the Project including a detailed impact mitigation strategy prepared generally in accordance with the UHSA Guidelines for the Mitigation of Coal Mining Impacts on Biodiversity (OEH 2015b). The impact mitigation strategy will address the following key elements:</p> <ul style="list-style-type: none"> <li>landform establishment</li> <li>implementation of clearing procedures to minimise the impacts of the clearing process and maximise the recovery of any valuable biodiversity resources (e.g. seed collection, re-use of hollow logs and tree hollows where appropriate)</li> <li>feral animal and noxious weed control</li> <li>fencing and access control</li> <li>management of domestic stock</li> <li>pathogen management</li> <li>bushfire management</li> <li>ensuring appropriate environmental management measures are in place as part of the mining operations to minimise the potential for indirect impacts including <ul style="list-style-type: none"> <li>water management systems that seek to minimise the potential for damage to flora and fauna and their habitats from erosion and unnatural flooding events</li> <li>noise control systems to minimise noise impacts</li> <li>dust control measures to minimise dust impacts</li> <li>lighting controls to minimise night light impacts</li> <li>blasting controls to minimise blast overpressure and vibration impacts</li> </ul> </li> <li>employee education and training.</li> </ul> |
| <b>SSD7142 EIS<br/>SOC Mgmt<br/>Measures</b> | SOC_8.0_Management<br>Measures_047 | The Biodiversity Management Plan will include a biodiversity monitoring program for the Project. The monitoring program will be used to assess and inform the ongoing improvement of management actions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>SSD7142 EIS<br/>SOC Mgmt<br/>Measures</b> | SOC_8.0_Management<br>Measures_048 | <p>United will implement a comprehensive Biodiversity Offset Strategy for the Project as outlined in Section 6.9.6, including:</p> <ul style="list-style-type: none"> <li>establishment of proponent-managed offset sites possibly including the Highfields Offset Site, Mangrove Offset Site and Wambo Offset Site</li> <li>mine site ecological rehabilitation contributing 25 per cent of the overall biodiversity offset requirement (estimated at around 878 hectares of ecological rehabilitation)</li> <li>Payments into the Upper Hunter Offsets Scheme fund and/or establishment of further offset sites for the residual credits that need to be retired.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>SSD7142 EIS<br/>SOC Mgmt<br/>Measures</b> | SOC_8.0_Management<br>Measures_049 | The proposed offset sites will be established as BioBank sites under BioBanking Agreements, providing for in-perpetuity conservation and reporting consistent with the NSW BioBanking scheme.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Source                              | Reference                          | Obligation                                                                                                                                                                                                                                                                                                                                 |
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| SSD7142 EIS<br>SOC Mgmt<br>Measures | SOC_8.0_Management<br>Measures_050 | The retirement of credits/staging of offsets will be in accordance with the staging of progressive disturbance of native vegetation areas during the development of the Project. This staging will be consistent with the staging of the MOPs for the Project, as governed by the Mining Act 1992.                                         |
| SSD7142 EIS<br>SOC Main<br>Text     | SOC_6.03_Agriculture_008           | AIS 6.2.2.3 Page 117<br>Management strategies for feral animals and noxious weed control are currently detailed in the United Collieries Mine Operations Plan and Wambo Coal Flora and Fauna Management Plan, both of which will be incorporated into a revised and consolidated Landscape Management Plan should the Project be approved. |
| SSD7142 EIS<br>SOC Main<br>Text     | SOC_6.09_Ecology_001               | Section 6.9.3 SoC 4.0 Page 34<br>Hunter Valley Weeping Myall Woodland - The stand will be managed for the recovery of the community and will be fenced to exclude grazing stock and unauthorised intrusions (with a 20 metre buffer between the stand and the fence).                                                                      |
| SSD7142 EIS<br>SOC Main<br>Text     | SOC_6.09_Ecology_002               | Section 6.9.3 SoC 10 Page 69<br>The following specific control measures are considered to be integral to the protection and preservation of the ecological features of the Project Area:<br>• landform establishment                                                                                                                       |
| SSD7142 EIS<br>SOC Main<br>Text     | SOC_6.09_Ecology_002               | • implementation of clearing procedures to minimise the impacts of the clearing process and maximise the recovery of any valuable biodiversity resources (e.g. seed collection, re-use of hollow logs and tree hollows where appropriate)                                                                                                  |
| SSD7142 EIS<br>SOC Main<br>Text     | SOC_6.09_Ecology_002               | • feral animal and noxious weed control                                                                                                                                                                                                                                                                                                    |
| SSD7142 EIS<br>SOC Main<br>Text     | SOC_6.09_Ecology_002               | • fencing and access control                                                                                                                                                                                                                                                                                                               |
| SSD7142 EIS<br>SOC Main<br>Text     | SOC_6.09_Ecology_002               | • management of domestic stock                                                                                                                                                                                                                                                                                                             |
| SSD7142 EIS<br>SOC Main<br>Text     | SOC_6.09_Ecology_002               | • pathogen management                                                                                                                                                                                                                                                                                                                      |
| SSD7142 EIS<br>SOC Main<br>Text     | SOC_6.09_Ecology_002               | • bushfire management                                                                                                                                                                                                                                                                                                                      |
| SSD7142 EIS<br>SOC Main<br>Text     | SOC_6.09_Ecology_002               | • ensuring appropriate environmental management measures are in place as part of the mining operations to minimise the potential for indirect impacts including:<br>o water management systems that seek to minimise the potential for damage to flora and fauna and their habitats from erosion and unnatural flooding events             |

| Source                          | Reference            | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_003 | Section 6.9.3 SoC 10 Page 70<br>United will prepare an appropriate biodiversity management plan for the Project in accordance with any relevant development consent requirements. The project-specific biodiversity management will guide the implementation of the mitigation steps. The outcomes of ecological monitoring will also be used to provide for the management plan to be reviewed and adapted in response to new information.                                                                                                                                                                                                                                                                                                                     |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_004 | Section 6.9.3<br>The effectiveness and long-term success of biodiversity mitigation actions will be evaluated against key outcomes, which necessitate regular and appropriately targeted monitoring. This will be achieved by using formal monitoring programs and due diligence assessments that periodically examine measurable changes over time and provide information on impacts and the success or otherwise of mitigation actions. The biodiversity monitoring program for the Project will be documented in the biodiversity management plan.                                                                                                                                                                                                          |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_006 | Section 6.9.6<br>The proposed offset sites will be established as BioBank sites under BioBanking Agreements, ensuring in-perpetuity conservation and reporting consistent with the BioBanking scheme.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_007 | Section 6.9.6<br>Consistent with discussions with OEH, it is proposed to stage the retirement of credits in accordance with the progressive development of the Project. This staging will be consistent with the staging of the Mining Operations Plans (MOP) for the Project, as governed by the Mining Act 1992.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_009 | SoC 10.2 Page 70<br>A robust tree felling procedure will be implemented to minimise the potential for impacts on native fauna species (including threatened species) as a result of the clearing of hollow-bearing trees. The procedure will detail the necessary pre-clearing activities, requirements during clearing operations, and post-clearing requirements. The procedure will include the following:<br>Pre-clearing surveys by a suitably experienced and experienced person prior to felling. This will include marking of hollow-bearing trees, as well as any other notable features such as fallen timber, hollow logs or boulders suitable for salvage; active nests, dreys or dens requiring consideration; and seed-bearing trees for salvage. |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_010 | SoC 10.2 Page 70<br>Removal of non hollow-bearing trees/vegetation as close to the hollow-bearing tree felling date as practicable (in order to discourage fauna usage of the area). It is not necessary for the suitably qualified and experienced person to be present to supervise such works.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Source                          | Reference            | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_011 | <p>SoC 10.2 Page 71</p> <ul style="list-style-type: none"> <li>• Hollow-bearing tree felling procedures, including (but not limited to):               <ul style="list-style-type: none"> <li>o supervision of all hollow-bearing tree felling works by a suitably qualified and experienced person. If an ecological issue is encountered, the suitably qualified person is to advise on the most appropriate measures to ensure minimal impact on fauna species, particularly threatened species</li> <li>o visual canopy inspection on the day of the felling of hollow-bearing trees to check for individual animals in the canopy</li> <li>o shaking of hollow-bearing tree (with heavy machinery where safe to do so) to encourage resident fauna to abandon tree, prior to felling</li> <li>o lowering of hollow-bearing trees as gently as possible (soft-felled) with heavy machinery</li> <li>o inspection of all hollows in felled trees by a suitably qualified and experienced person</li> <li>o capture of any displaced/injured fauna by a suitably qualified and experienced person</li> <li>o if a threatened species is identified in a habitat tree on the day of felling, the supervising person should advise the most appropriate method to minimise potential harm</li> <li>o release of unharmed fauna into nearby secure habitats by a suitably experienced person</li> <li>o injured fauna to be assessed and taken to wildlife carer, if necessary, by a suitably experienced person</li> <li>o felled trees are to be rolled so that the number of hollows blocked against the ground are minimised</li> <li>o all felled trees are to remain in place overnight to allow any unidentified fauna to escape</li> <li>o salvage of suitable hollows for use as compensatory habitat, where practicable.</li> </ul> </li> </ul> |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_012 | <p>SoC 10.2 Page 71</p> <p>All personnel who will capture/handle/house and/or transport native fauna species (injured or uninjured) will be appropriately licensed under the relevant field survey and ethics authorities, currently this means licensing under the NSW National Parks and Wildlife Act 1974 and the NSW Animal Ethics Committee.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_013 | <p>SoC 10.2.1 Page 71</p> <p>A burrow clearing procedure will be implemented to minimise the potential for impacts on wombats as a result of the digging up wombat burrows. The procedure will detail the necessary pre-clearing activities, requirements during clearing operations, and post-clearing requirements.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_014 | <p>SoC 10.3 Page 72</p> <p>Existing weed management controls at United and Wambo will be incorporated into the Biodiversity Management Plan. Weed control will be undertaken in accordance with current mine practices and, for noxious weed species, with NSW control guidelines.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Source                          | Reference            | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_015 | SoC 10.3 Page 72<br>Regular weed inspections will be undertaken across the Project Area and appropriate weed control methods will be implemented.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_016 | SoC 10.4 Page 72<br>Pest and feral animal controls at United and Wambo will be incorporated into the Biodiversity Management Plan. Pest and feral animal control will be undertaken in accordance with current mine practices and in consideration of the UHSA mitigation guidelines (OEH 2015c).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_017 | SoC 10.4 Page 72<br>Regular monitoring of revegetation areas and retained areas will be undertaken to assess the level of impact by feral animals, particularly on vegetation establishment. Feral animal control works will be undertaken periodically to provide for the suppression of feral animals, and this will be undertaken in a manner that is sympathetic to ecological outcomes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_018 | SoC 10.5 Page 72<br>New fencing used within the Project Area adjacent to native vegetation areas will where possible remove the use of barbed wire especially in the top two strands and replace with plain wire. The use of as few wire strands as practical will be considered to reduce potential for fauna entanglement, particularly by macropods.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_019 | SoC 10.6 Page 73<br>Domestic stock may be strategically grazed in parts of the Project Area to reduce weed species or to manage fuel loads for bushfire risk. The following mitigation measures will be undertaken to manage the impacts of grazing by domestic stock: <ul style="list-style-type: none"> <li>• Stock grazing will not be undertaken in areas of high biodiversity values</li> <li>• Where livestock are being used to remove vegetation by crash grazing, the following principles will be considered: <ul style="list-style-type: none"> <li>o Allow the stock to feed intensively in a defined area only for short periods</li> <li>o Undertake crash grazing between autumn and mid-spring – ideally before weed species set seed and when these species are more palatable and the nutrient content of the foliage is high</li> <li>o Manage the movement of livestock using fencing (temporary or permanent)</li> <li>o Monitor feed levels so that overgrazing does not occur.</li> </ul> </li> <li>• Where possible ground cover will be maintained towards 100 per cent</li> <li>• The grazing pressure from other herbivores (e.g. kangaroos, wallabies, rabbits and hares) is to be reviewed in the context of the domestic stocking rate that can be utilised.</li> </ul> |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_020 | SoC 10.7 Page 73<br>If any of the above pathogens are identified in the Project Area appropriate mitigation actions will be implemented in consultation with relevant authorities, if warranted, to minimise the incidence and spread of the pathogens.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Source                          | Reference            | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_021 | SoC 10.8 Page 74<br>Appropriate bushfire management controls will be considered in the development of the Biodiversity Management Plan and where appropriate will include the application of fire research knowledge to generate ecological outcomes through the appropriate use of fire as an ecological management tool.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_022 | SoC 10.9 Page 74<br>In parallel with revegetation works in mine site rehabilitation areas (refer to Section 13.4 for further details on mine site rehabilitation), the Project will re-establish ground fauna habitat through the relocation of cleared vegetation to targeted mine site rehabilitation areas, where practicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_023 | SoC 10.9 Page 74<br>The following habitat enhancement and re-instatement mitigation measures may be undertaken: <ul style="list-style-type: none"> <li>• Dams could be constructed in the post-mining landform to facilitate the re-colonisation of woodland fauna communities. Dams provide a source of permanent water in the landscape and associated fauna species such as frogs and invertebrates will constitute suitable prey for many additional fauna species such as reptiles. Increasing the habitat complexity and range of micro-habitats occurring in the postmining landscape will result in the increased utilisation of the rehabilitation by a much wider range of fauna species in the post-mining land form.</li> <li>• Habitat enhancement of retained vegetation such as provision of nest boxes, salvaged hollows, fallen timber, hollow logs and boulders, as deemed necessary.</li> </ul> |
| SSD7142 EIS<br>SOC Main<br>Text | SOC_6.09_Ecology_024 | SoC 10.10 Page 75<br>The following mitigation actions will be undertaken to develop a greater understanding and awareness of biodiversity issues in non-ecological trained personnel: <ul style="list-style-type: none"> <li>• Inductions for staff, contractors and visitors will be undertaken to make them aware of the ecological issues present in the Project Area and so that they know their role and responsibilities in the protection and/or minimisation of impacts to all native biodiversity.</li> <li>• Inductions will identify the location of sensitive flora and fauna and the policies being implemented to protect the biodiversity values of such areas.</li> </ul>                                                                                                                                                                                                                          |
| SSD7142 EIS<br>SOC PAC Res      | SOC_PAC_Res_014      | Section Offsets Page 113<br>United proposes to retire biodiversity credits progressively based on the staging of native vegetation disturbance in line with the progressive development of the mine and will secure the credits for each stage prior to commencement of those activities. The proposed land based offsets will be managed as conservation areas from Project commencement. A Stewardship Agreement will be put in place for land based offsets required for Stage 1 within 12 months of a development consent being granted, or as otherwise agreed with the Secretary.                                                                                                                                                                                                                                                                                                                            |
| SSD7142 EIS<br>SOC RFAI         | SOC_RFAI_004         | Section 3 Page 54<br>Should Wambo's proposed underground mining beneath the proposed Wambo offset site be approved, United commits to re-calculating the credits for the Wambo offset site after such undermining has occurred to ensure that the credits generated consider any impacts due to the underground mining. Should the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Source                                                  | Reference              | Obligation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                         |                        | number of credits generated reduce, these credits will be sought and retired using other offsets.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>SSD7142 EIS<br/>SOC RFAI</b>                         | SOC_RFAI_012           | Section 3 Page 54<br>United commit to no net loss of high capability land (Class 1 to 3) as a result of the Project.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>EPBC<br/>2015/7600<br/>Variation 7<br/>July 2025</b> | Condition 02           | Listed threatened species and ecological community<br><br>The objective of conditions 2 to 4 is to minimise the impacts of the Action on listed threatened species and an ecological community.<br><br>2) Within the project area, the approval holder must not clear more than:<br><br>a) 203.7 hectares of Regent Honeyeater and Swift Parrot habitat,<br><br>b) 352.9 hectares of Spotted-tail quoll habitat, and<br><br>c) 246.8 hectares of the Central Hunter Valley Eucalypt Forest and Woodland ecological community.                                                                                                                                                                                                                                                                                                                                                                       |
| <b>EPBC<br/>2015/7600<br/>Variation 7<br/>July 2025</b> | Condition 03           | 3) The approval holder must comply with the State development consent conditions B55, B56, B57, B58, B59, B60, B61, B62, B69, B71, B72 and B73.<br><br>a) To compensate for the loss of Regent Honeyeater and Swift Parrot habitat, Spotted-tail quoll habitat, and Central Hunter Valley Eucalypt Forest and Woodland ecological community, the approval holder must submit the Biodiversity Offset Strategy plan (specified at condition B71(e) of the State development consent) to the Minister for approval.<br><br>i) The approval holder must not commence Phase 1A until the Biodiversity Offset Strategy plan has been approved by the Minister.<br><br>ii) The approval holder must implement the Biodiversity Offset Strategy plan as approved by the Minister and continue to implement the approved Biodiversity Offset Strategy plan at least until the expiry date of this approval. |
| <b>EPBC<br/>2015/7600<br/>Variation 7<br/>July 2025</b> | Condition 04           | 4) The approval holder must comply with the State development consent conditions B97, B98, B100, B101, B102 and B103.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>SSD7142</b>                                          | SSD 7142 Condition B68 | If the Applicant provides proof that a condition under Part 12A of the Mining Act 1992 has been imposed on a mining lease applicable to the site that requires the holder of the lease to provide and maintain a security deposit to the Resources Regulator to secure funding for the fulfilment of obligations under the lease relating to the successful implementation of Ecological Mine Rehabilitation, then the Planning Secretary may determine that no Conservation Bond is required under condition B63, or if a Conservation Bond has already been provided to the Planning Secretary, then the Planning Secretary may release the Conservation Bond.                                                                                                                                                                                                                                    |

## Appendix B - BioMP Initial Approval



**Planning,  
Industry &  
Environment**

**Planning and Assessments  
Energy and Resource Assessments**  
Contact: Joel Herbert  
Phone: (02) 8289 6614  
Email: [joel.herbert@planning.nsw.gov.au](mailto:joel.herbert@planning.nsw.gov.au)

Ms Aislinn Farnon  
Approvals Manager  
United Wambo Coal JV Project

By email: [Aislinn.Farnon@glencore.com.au](mailto:Aislinn.Farnon@glencore.com.au)

Dear Ms Farnon,

**United Wambo Open Cut Coal Mine (SSD 7142)  
Approval of Management Plans**

I refer to your recent correspondence submitting the revised copies of the below management plans for Phase 1A, in accordance with the United Wambo Open Cut Coal Mine development consent (SSD 7412):

- Air Quality and Greenhouse Gas Management Plan, dated 1 November 2019 (condition B29, Part B);
- Biodiversity Management Plan, dated 6 November 2019 (condition B71, Part B); and
- Construction Environmental Management Plan, dated 4 November 2019 (condition C10, Part C).

The Department has reviewed the revised plans and now considers that they adequately address the requirements of SSD 7412. Consequently, the Department has approved these plans.

Please ensure that copies of these plans are published on your website in accordance with condition E16 of Part E.

Should you have any enquiries in relation to this matter, please contact Joel Herbert on the details listed above.

Yours sincerely

Stephen O'Donoghue  
**Director**  
**Resource Assessments**  
as nominee of the Secretary

## Appendix C - Stakeholder Consultation

### C.1 Phase 1A

| Comment from DPE                                                                                                                                                                                                                                                                                                                                                                                                            | Response by United Wambo Project                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| In accordance with condition B71(a) of the development consent, provide evidence that the BioMP has been prepared by a suitably qualified and experienced person, including correspondence from Bill Wallach and Naomi Buchhorn from Umwelt indicating they are satisfied with the plan.                                                                                                                                    | Umwelt have prepared a letter, which has been provided.                                                                                                                                                                                                             |
| In accordance with condition B71(b), provide evidence that the BioMP has been prepared in consultation with the Biodiversity & Conservation Division within the Department (BCD).                                                                                                                                                                                                                                           | Evidence of consultation with BCD is provided in Appendix A of the BioMP. BCD were unable to provide comment of the BioMP.                                                                                                                                          |
| Append biodiversity related forms and procedures referenced in the BioMP (eg. Offset Area Inspection Form, Habitat Tree Felling Procedure, <b>Weed Action Plan</b> , etc) to the document.                                                                                                                                                                                                                                  | These forms and procedures are provided as appendices to the BioMP. References to the forms and procedures have been updated throughout the BioMP. The Weed Action Plan has not yet been developed, a commitment is made in the BioMP to prepare within six months. |
| Section 3 – condition B61 allows ecological mine rehabilitation to be used to satisfy up to 20 per cent                                                                                                                                                                                                                                                                                                                     | <b>Section 4.4.4</b> now states: Mine site ecological rehabilitation contributing up to 25 per cent of the overall biodiversity offset requirements and up to 20 per cent of the Central Hunter Valley Eucalypt Forest and Woodland CEEC requirements               |
| It is noted that individual Biodiversity Stewardship Site Assessment Reports (BSSARs) are proposed to address the management and monitoring of the five Biodiversity Stewardship Sites. The Department accepts this approach, however, notes that the BSSARs will need to be submitted and approved by the Planning Secretary within 12 months of commencing Phase 1A. The BioMP should include commitments to this effect. | <b>Section 4.5</b> has been updated and now states: The BSSARs will be submitted for approval by the Planning Secretary within 12 months of commencing Phase 1A. (Note this has since been extended to 24 months)                                                   |
| It is noted that Table 1-3 2015/7600 Requirements for Biodiversity Management is incomplete and will require updating once the approval is issued.                                                                                                                                                                                                                                                                          | Table 1-3 will be updated once EPBC approval has been received.                                                                                                                                                                                                     |

## C.2 Phase 1B

| Comment from DPE                                                    | Response by United Wambo Project                                                 |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------|
| The Weed Action Plan committed to should be completed and provided. | The Weed Action Plan has been attached as <i>Appendix J - Weed Action Plan</i> . |

**From:** Steven Cox <Steven.Cox@environment.nsw.gov.au>  
**Sent:** Thursday, 5 September 2019 5:08 PM  
**To:** Farnon, Aislinn (United - AU)  
**Cc:** Melanie Hollis; Wills, Gary (United - AU); Robert Gibson  
**Subject:** RE: United Wambo SSD 7142 Biodiversity Management Plan

External sender

Hi Aislinn,

Thank you for providing the Biodiversity and Conservation Division (BCD) of the Department of Planning, Industry and Environment (the Department) with the opportunity to comment on the United Wambo Biodiversity Management Plan. However, BCD is currently unable to provide comment on the plan.

Please provide a copy of the plan to the Energy and Resources Division of the Department without comment from BCD.

Also please send any future requests for advice to [rog.hcc@environment.nsw.gov.au](mailto:rog.hcc@environment.nsw.gov.au) rather than directly to individual team members or me. Such emails will be saved in our document management system (and documents from file transfer websites will be downloaded) and will be forwarded to me within 24 hrs. If I'm on leave they will go to the Acting Team Leader (so they can't be missed or lost if someone is away).

Regards  
Steven

**Steven Cox**  
**Senior Team Leader Planning**  
**Hunter Central Coast Branch**

Biodiversity and Conservation Division | Department of Planning, Industry and Environment  
T 02 4927 3140 | M 0472 800 088 | E [steven.cox@environment.nsw.gov.au](mailto:steven.cox@environment.nsw.gov.au)  
Level 4, 26 Honeysuckle Drive, Newcastle NSW 2300  
[www.dpie.nsw.gov.au](http://www.dpie.nsw.gov.au)



**Planning,  
Industry &  
Environment**

The DPIE Hunter Central Coast Branch Planning Team has a group email address: [rog.hcc@environment.nsw.gov.au](mailto:rog.hcc@environment.nsw.gov.au). Please address all further email correspondence in relation to Planning and Aboriginal cultural heritage regulation matters to this address.

*The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.*

**From:** Melanie Hollis <Melanie.Hollis@planning.nsw.gov.au>  
**Sent:** Friday, 11 October 2019 2:00 PM  
**To:** Farnon, Aislinn (United - AU)  
**Subject:** United Wambo Biodiversity Management Plan Review

**External sender**

Hi Aislinn

Please address the below comments for the Biodiversity Management Plan.

**Biodiversity Management Plan (BMP) (Version 1.0)**

- In accordance with condition B71(a) of the development consent, provide evidence that the BMP has been prepared by a suitably qualified and experienced person, including correspondence from Bill Wallach and Naomi Buchhorn from Umwelt indicating they are satisfied with the plan.
- In accordance with condition B71(b), provide evidence that the BMP has been prepared in consultation with the Biodiversity & Conservation Division within the Department (BCD).
- Append biodiversity related forms and procedures referenced in the BMP (eg. Offset Area Inspection Form, Habitat Tree Felling Procedure, Weed Action Plan, etc) to the document.
- Section 3 – condition B61 allows ecological mine rehabilitation to be used to satisfy up to 20% of CEEC ecosystem credit requirements, not 25% as specified.
- It is noted that individual Biodiversity Stewardship Site Assessment Reports (BSSARs) are proposed to address the management and monitoring of the five Biodiversity Stewardship Sites. The Department accepts this approach, however notes that the BSSARs will need to be submitted and approved by the Planning Secretary within 12 months of commencing Phase 1A. The BMP should include commitments to this effect.

It is noted that *Table 1-3 2015/7600 Requirements for Biodiversity Management* is incomplete and will require updating once the approval is issued.

Kind Regards

**Melanie Hollis**

Senior Planning Officer  
Resource Assessments  
Level 30, 320 Pitt Street | GPO Box 39 | Sydney NSW 2001  
T 02 8217 2043 E [melanie.hollis@planning.nsw.gov.au](mailto:melanie.hollis@planning.nsw.gov.au)



Planning,  
Industry &  
Environment



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*The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.*



Please consider the environment before printing this e-mail.

## Appendix D - DPHI Approval

### Department of Planning and Environment



Our ref: SSD-7142-PA-100

Aislinn Farnon  
Environment and Community Manager  
United Collieries Pty Ltd  
300 Watt Street  
Warkworth NSW 2330

22/03/2023

---

**Subject: Approval of United Wambo Biodiversity Management Plan**

Dear Ms Farnon,

I refer to the Biodiversity Management Plan submitted in accordance with Condition B71, Schedule 2 of the development consent for the United Wambo Open Cut Coal Mine (SSD 7142).

The Department has carefully reviewed the document and is satisfied that it meets the requirements of the relevant conditions of SSD 7142.

Accordingly, as nominee of the Planning Secretary, I approve the Biodiversity Management Plan (Version 6, dated August 2022), subject to the values in the "Percent Credit Allocation for Stage 1" column of Table 10-13 being crosschecked to confirm they are correct.

The Planning Secretary also agrees, in accordance with condition A23 of Schedule 2, that consultation with each of the relevant parties listed in condition B71 is not required given the administrative nature of the updates.

You are reminded that if there are any inconsistencies between the Biodiversity Management Plan and the conditions of consent, the conditions prevail.

Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact me on (02) 4908 6896.

Yours sincerely

A handwritten signature in black ink, appearing to read "Joe Fittell".

**Joe Fittell**  
**Team Leader**  
**Resource Assessments**

As nominee of the Planning Secretary

---

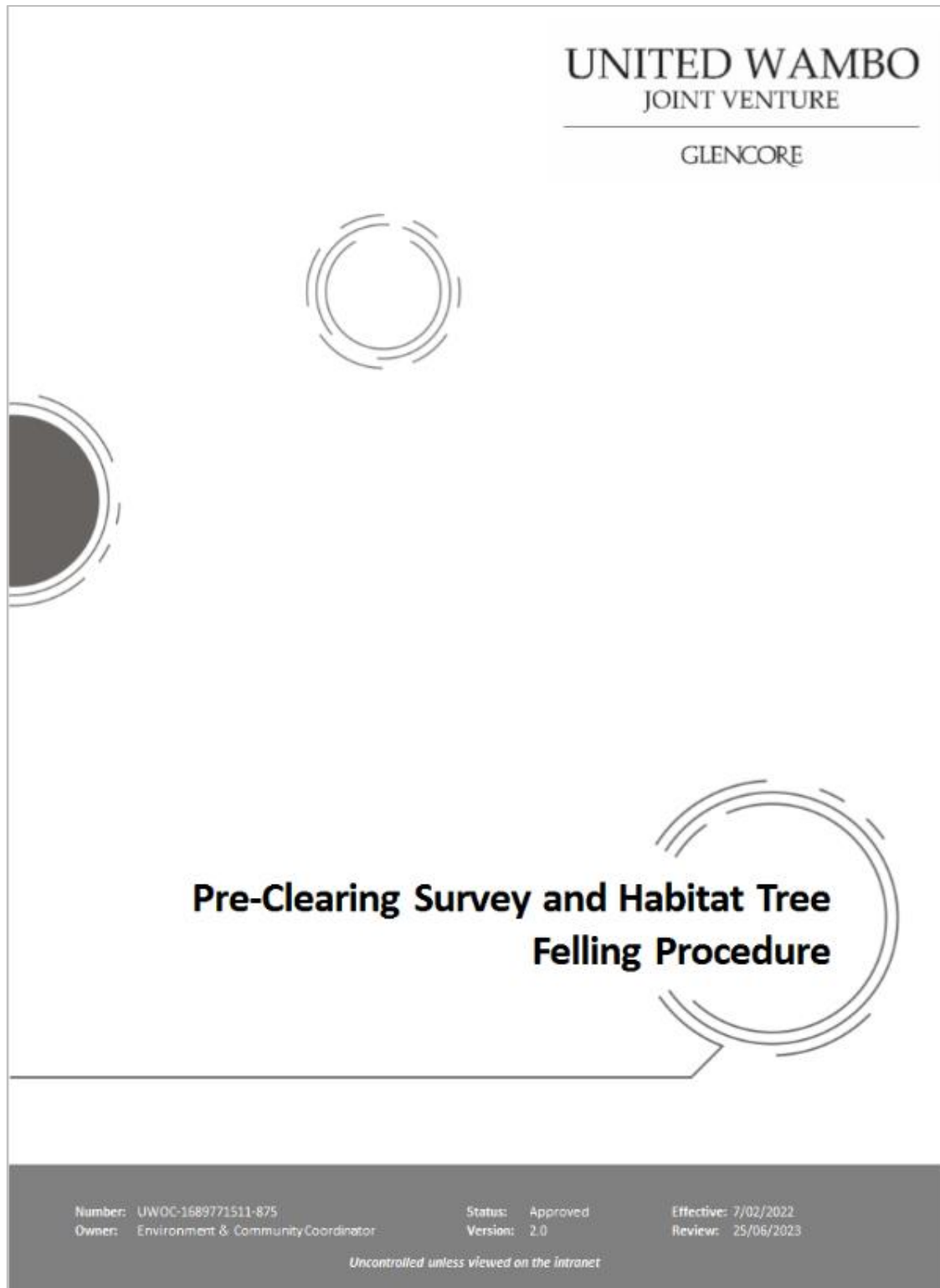
4 Parramatta Square, 12 Darcy Street, Parramatta NSW 2150  
Locked Bag 5022, Parramatta NSW 2124

[www.dpie.nsw.gov.au](http://www.dpie.nsw.gov.au)

1

## Appendix E - United Wambo Pre-Clearing Survey and Habitat Tree Felling Procedure

Document ID: UWOC-1689771511-875



# Appendix F - United Wambo Pre-Clearing Survey Form

Document ID: UWOC-1689771511-393

| Pre-Clearing Survey                                                                                                                                                                                                                                                                                                                              |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------|----------|---------------------|------------|-------------|------------|------------|-------------|--------|-------------------------------------|----------|-----|---------|------------|
| <b>Details</b>                                                                                                                                                                                                                                                                                                                                   |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| Location:                                                                                                                                                                                                                                                                                                                                        |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| GDP Permit Number:                                                                                                                                                                                                                                                                                                                               |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| <b>Habitat Tree Felling Supervisor</b>                                                                                                                                                                                                                                                                                                           |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| Name:                                                                                                                                                                                                                                                                                                                                            |                                     | Company:                    |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| Date survey commenced:                                                                                                                                                                                                                                                                                                                           |                                     | Date survey completed:      |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| <b>Ecology</b>                                                                                                                                                                                                                                                                                                                                   |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| Has a canopy inspection been undertaken to identify any additional threatened species or nesting birds?                                                                                                                                                                                                                                          | <input type="checkbox"/> Yes        | <input type="checkbox"/> No |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| If yes, list identified species and proposed management strategy for each:                                                                                                                                                                                                                                                                       |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| <br>                                                                                                                                                                                                                                                                                                                                             |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| <b>Resource Salvage</b>                                                                                                                                                                                                                                                                                                                          |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| Have habitat trees been clearly marked?                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Yes        | <input type="checkbox"/> No |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| How many habitat trees were identified?                                                                                                                                                                                                                                                                                                          |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| Were other habitat resources (hollow logs, fallen timber, etc) identified for salvage?                                                                                                                                                                                                                                                           | <input type="checkbox"/> Yes        | <input type="checkbox"/> No |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| If yes, list salvage requirements for habitat trees and other resources:                                                                                                                                                                                                                                                                         |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| <br>                                                                                                                                                                                                                                                                                                                                             |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| Are there recoverable seed resources present?                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/> Yes        | <input type="checkbox"/> No |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| If yes, list proposed management strategy:                                                                                                                                                                                                                                                                                                       |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| <br>                                                                                                                                                                                                                                                                                                                                             |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| Has an assessment been undertaken of the topsoil to determine suitability for re-use?                                                                                                                                                                                                                                                            | <input type="checkbox"/> Yes        | <input type="checkbox"/> No |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| Have samples been taken to determine ameliorant requirements?                                                                                                                                                                                                                                                                                    | <input type="checkbox"/> Yes        | <input type="checkbox"/> No |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| Recommended topsoil-stripping depth (mm):                                                                                                                                                                                                                                                                                                        |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| <br>                                                                                                                                                                                                                                                                                                                                             |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |
| <table border="0"> <tr> <td>Number:</td> <td>UWOC-1689771511-393</td> <td>Status:</td> <td>Approved</td> <td>Effective:</td> <td>17/08/2020</td> <td rowspan="2">Page 1 of 2</td> </tr> <tr> <td>Owner:</td> <td>Environment &amp; Community Coordinator</td> <td>Version:</td> <td>2.0</td> <td>Review:</td> <td>17/08/2023</td> </tr> </table> |                                     |                             | Number:  | UWOC-1689771511-393 | Status:    | Approved    | Effective: | 17/08/2020 | Page 1 of 2 | Owner: | Environment & Community Coordinator | Version: | 2.0 | Review: | 17/08/2023 |
| Number:                                                                                                                                                                                                                                                                                                                                          | UWOC-1689771511-393                 | Status:                     | Approved | Effective:          | 17/08/2020 | Page 1 of 2 |            |            |             |        |                                     |          |     |         |            |
| Owner:                                                                                                                                                                                                                                                                                                                                           | Environment & Community Coordinator | Version:                    | 2.0      | Review:             | 17/08/2023 |             |            |            |             |        |                                     |          |     |         |            |
| Uncontrolled unless viewed on the intranet                                                                                                                                                                                                                                                                                                       |                                     |                             |          |                     |            |             |            |            |             |        |                                     |          |     |         |            |

## Appendix G - Habitat Tree Felling Form

Document ID: UWOC-1689771511-394

| Habitat Tree Felling Form                                                                                                                                                                                                                  |                                  | UNITED WAMBO<br>JOINT VENTURE<br>GLENORE |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------|--|
| <b>Habitat Tree Felling</b>                                                                                                                                                                                                                |                                  |                                          |  |
| <b>Details</b>                                                                                                                                                                                                                             |                                  |                                          |  |
| Location:                                                                                                                                                                                                                                  |                                  |                                          |  |
| GDP Permit Number:                                                                                                                                                                                                                         |                                  |                                          |  |
| <b>Habitat Tree Felling Supervisor</b>                                                                                                                                                                                                     |                                  |                                          |  |
| Name:                                                                                                                                                                                                                                      |                                  | Company:                                 |  |
| Position/Qualification:                                                                                                                                                                                                                    |                                  | Date of Felling:                         |  |
| <b>Pre-Felling Requirements</b>                                                                                                                                                                                                            |                                  |                                          |  |
| Has a canopy inspection of habitat trees to be cleared been carried out within 7 days of proposed felling?                                                                                                                                 | <input type="checkbox"/> Yes     | <input type="checkbox"/> No              |  |
| Recommendations:                                                                                                                                                                                                                           |                                  |                                          |  |
| Are recommendations complete?                                                                                                                                                                                                              | <input type="checkbox"/> Yes     | <input type="checkbox"/> No              |  |
| Have all habitat trees to be felled been tapped prior to felling?                                                                                                                                                                          | <input type="checkbox"/> Yes     | <input type="checkbox"/> No              |  |
| Recommendations:                                                                                                                                                                                                                           |                                  |                                          |  |
| Any other comments or conditions?                                                                                                                                                                                                          | <input type="checkbox"/> Yes     | <input type="checkbox"/> No              |  |
| <b>Fauna Located Prior To Felling</b>                                                                                                                                                                                                      |                                  |                                          |  |
| Species                                                                                                                                                                                                                                    | Fate – injured/escaped/relocated |                                          |  |
|                                                                                                                                                                                                                                            |                                  |                                          |  |
| Comments/Issues:                                                                                                                                                                                                                           |                                  |                                          |  |
| Number: UWOC-1689771511-394      Status: Approved      Effective: 20/08/2020<br>Owner: Environment & Community Coordinator      Version: 2.0      Review: 20/08/2023      Page 1 of 2<br><i>Uncontrolled unless viewed on the intranet</i> |                                  |                                          |  |

# Appendix H - United Wambo Biodiversity Offset Area Inspection Form

Document ID: UWOC-1689771511-392

| Biodiversity Offset Area Inspection                                                                                                                 |                      |                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------|
| <b>Details</b>                                                                                                                                      |                      |                        |
| BioBank Site Name: <input type="text"/>                                                                                                             |                      |                        |
| <b>Inspected By</b>                                                                                                                                 | <b>Date</b>          | <b>Time</b>            |
| <input type="text"/>                                                                                                                                | <input type="text"/> | <input type="text"/>   |
| <b>Inspection Item</b>                                                                                                                              | <b>Comments</b>      | <b>Action Required</b> |
| <b>Fencing:</b> check condition (holes, fallen sections, rust/corrosion)                                                                            | <input type="text"/> | <input type="text"/>   |
| <b>Weeds:</b> observed infestation/occurrences, success of controlled areas                                                                         | <input type="text"/> | <input type="text"/>   |
| <b>Revegetation:</b> effectiveness and condition of revegetation and rehabilitation efforts                                                         | <input type="text"/> | <input type="text"/>   |
| <b>Feral Pests:</b> animals observed, signs of pests                                                                                                | <input type="text"/> | <input type="text"/>   |
| <b>Track:</b> quality of tracks, any required maintenance                                                                                           | <input type="text"/> | <input type="text"/>   |
| <b>Erosion:</b> evidence of previously unrecorded erosion, condition of remediated areas                                                            | <input type="text"/> | <input type="text"/>   |
| <b>Security:</b> signs of unauthorised entry, gates locked, "Keep Out" signs in place, IR cameras in place                                          | <input type="text"/> | <input type="text"/>   |
| <b>Grazing:</b> signs of unauthorised grazing, stock sighted in offset areas                                                                        | <input type="text"/> | <input type="text"/>   |
| <b>Bushfire Management:</b> excessive build-up of fuel load, evidence of fire, water fill point capacity and access sufficient, condition of SFAZ's | <input type="text"/> | <input type="text"/>   |
| <b>Comments:</b><br><br><br><br><br><br><br><br><br><br>                                                                                            |                      |                        |

|                                                   |                         |                             |                    |
|---------------------------------------------------|-------------------------|-----------------------------|--------------------|
| <b>Number:</b> UWOC-1689771511-392                | <b>Status:</b> Approved | <b>Effective:</b> 7/03/2022 | <b>Page 1 of 1</b> |
| <b>Owner:</b> Environment & Community Coordinator | <b>Version:</b> 3.0     | <b>Review:</b> 17/08/2023   |                    |

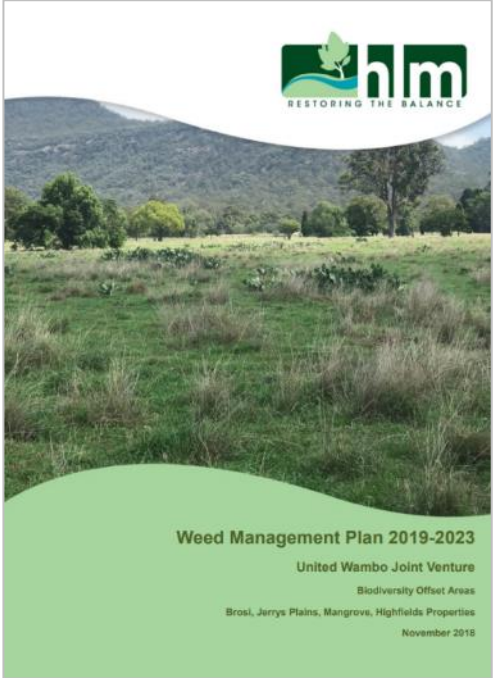
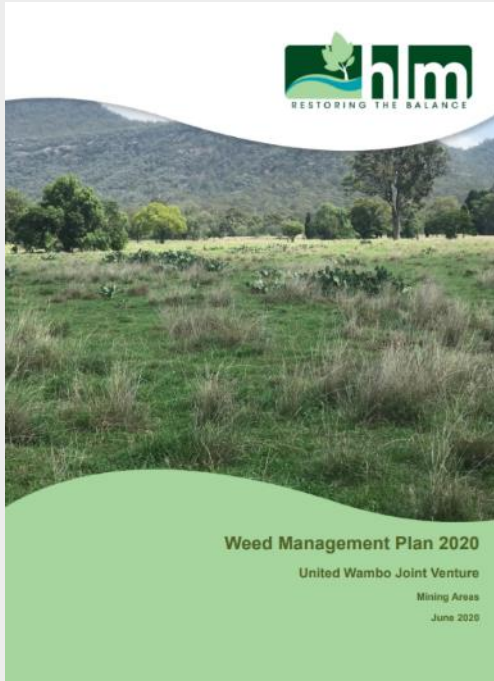
*Uncontrolled unless viewed on the intranet*

# Appendix I - United Wambo Buffer Land Inspection Form

Document ID: UWOC-1689771511-391

| Buffer Land Inspection Form                                                                                                                                                                                                                                                                                            |                |                 |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|----------|
| <div style="text-align: right;"> <b>UNITED WAMBO</b><br/>           JOINT VENTURE<br/>           GLENORE         </div>                                                                                                                                                                                                |                |                 |          |
| Buffer Land Inspection                                                                                                                                                                                                                                                                                                 |                |                 |          |
| Details                                                                                                                                                                                                                                                                                                                |                |                 |          |
| Property Name and Location:                                                                                                                                                                                                                                                                                            |                |                 |          |
| Paddocks/Area Inspected:                                                                                                                                                                                                                                                                                               |                |                 |          |
| Inspected By                                                                                                                                                                                                                                                                                                           | Position/Title | Date            | Time     |
|                                                                                                                                                                                                                                                                                                                        |                |                 |          |
| Inspection Item                                                                                                                                                                                                                                                                                                        | Findings       | Action Required | Location |
| <b>Fencing:</b> check condition (holes, fallen sections, broken or loose wires, rust/corrosion)                                                                                                                                                                                                                        |                |                 |          |
| <b>Infrastructure:</b> general condition of any sheds, stockyards                                                                                                                                                                                                                                                      |                |                 |          |
| <b>Weeds:</b> observed infestation/occurrences, species, estimated number/area, success of controlled areas                                                                                                                                                                                                            |                |                 |          |
| <b>Feral Pests:</b> animals observed and number, signs of pest activity, e.g. diggings, scats                                                                                                                                                                                                                          |                |                 |          |
| <b>Tracks:</b> quality of tracks and crossings, any required maintenance                                                                                                                                                                                                                                               |                |                 |          |
| <b>Security:</b> signs of unauthorised entry, gates locked, security signs in place                                                                                                                                                                                                                                    |                |                 |          |
| <b>Erosion:</b> evidence of previously unrecorded erosion, condition of any remediated areas                                                                                                                                                                                                                           |                |                 |          |
| <b>Rubbish:</b> signs of illegal dumping, excessive build-up of rubbish/materials by current Licensee                                                                                                                                                                                                                  |                |                 |          |
| <div> <div> <b>Number:</b> UWOC-1689771511-391<br/> <b>Owner:</b> Environment &amp; Community Coordinator         </div> <div> <b>Status:</b> Approved<br/> <b>Version:</b> 2.0         </div> <div> <b>Effective:</b> 17/08/2020<br/> <b>Review:</b> 17/08/2023         </div> <div> <b>Page 1 of 2</b> </div> </div> |                |                 |          |
| Uncontrolled unless viewed on the intranet                                                                                                                                                                                                                                                                             |                |                 |          |

## Appendix J - Weed Action Plan

| Link                                                                                                                             | Document                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <p><a href="#">Microsoft Word - UnitedWamboBOAWMP2019-2023v2full (glencore.net)</a></p> <p>Document ID: UWOC-1689771511-1795</p> |   |
| <p><a href="#">Weed Management Plan 2020.pdf (glencore.net)</a></p> <p>Document ID: UWOC-1689771511-1796</p>                     |  |

## Appendix K - Biodiversity Credit Retirement

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Credit Retirement Reports and payments into the Biodiversity Conservation Fund pursuant to Section 6.33 of the *Biodiversity Conservation Act 2016* for Stages 1, 2 and 3 credit requirements are provided in this Appendix.