

Appendix H – EPBC Controlled Action Assessment

In accordance with the bilateral agreement between the Commonwealth and NSW Governments, the Department provides the following additional information required by the Commonwealth Minister, in deciding whether or not to approve a proposal under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Department's assessment has been prepared based on the assessment contained in the Moolarben Coal Complex Open Cut Optimisation Modification Environmental Assessment (EA) (including the Biodiversity Assessment Review (BAR) in Appendix C of the EA), Moolarben Coal's Response to Submissions and supplementary information provided during the assessment process, public submissions, and advice provided by the NSW Office of Environment and Heritage (OEH) and other NSW agencies, the Commonwealth Department of the Environment and Energy (DoEE) and the Commonwealth's Independent Expert Scientific Committee on Coal Seam Gas and Large Mining Development (IESC).

This Appendix is supplementary to, and should be read in conjunction with, the assessment included in Section 6 of this assessment report which includes the Department's consideration of impacts to listed threatened species and communities, impacts to water resources and avoidance, mitigation and offsetting measures for threatened species, including for Matters of National Environmental Significance (MNES).

H.1 Impacts on EPBC Listed Species and Communities

As outlined in Section 6 of this report, the modification was considered by DoEE to likely to have significant impacts on 7 threatened species or ecological communities listed under the EPBC Act, namely:

- Central Hunter Valley Eucalypt Forest and Woodland Critically Endangered Ecological Community (CEEC);
- White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grasslands CEEC (Box Gum Woodland CEEC);
- *Anthochaera phygia* (Regent Honeyeater);
- *Lathamus discolor* (Swift Parrot);
- *Chalinolobus dwyeri* (Large-eared Pied Bat);
- *Nyctophilus corbeni* (Corbens Long-eared Bat); and
- *Phascolarctos cinereus* (Koala).

The Department has also considered the impacts of the action on the following 17 EPBC listed species which were identified by DoEE as requiring further consideration:

- 8 flora species: *Prasophyllum* sp Wybong, Hoary Sunray, Tarengo Leek orchid, *Tylophora linearis*, *Homoranthus darwiniodes*, *Dichanthium setosum* (Bluegrass), *Philothea ericfolia* and Austral Toadflax; and
- 9 fauna species: Brush-tailed Rock-wallaby, Spotted-tailed Quoll, Painted Honeyeater, Superb Parrot, Greater Glider, New Holland Mouse, Broad-headed Snake, Pink-tailed Worm Lizard and Striped Legless Lizard.

Ecological assessed the likelihood of occurrence of these species occurring at the site (see Appendix C of Appendix C of the EA) and the significance of the impacts on these species using the methodology outlined in *Matters of National Environmental Significance Significant Impact Guidelines* as documented in Appendix G of the Biodiversity Assessment Review (BAR - Appendix C of the EA).

Ecological concluded that the modification would be unlikely to have a significant impact on any MNES, including the 7 species considered by DoEE as likely to have a significant impact due to the proposed action. Nonetheless,

the Department notes DoEE's finding that it considered there is likely to be a significant impact and further detailed consideration of the impact of the action on these 7 species is therefore warranted and is provided below.

Species unlikely to be significantly impacted

In relation to *Prasophyllum* sp Wybong, Hoary Sunray, Tarengo Leek orchid, *Tylophora linearis*, *Philotheca ericifolia*, Austral Toadflax, Superb Parrot, Greater Glider, New Holland Mouse, Broad-headed Snake, Pink-tailed Worm Lizard and Striped Legless Lizard Ecological (see Appendix C of Appendix C of the EA) concluded that based on there was no habitat present and the species were unlikely to be impacted and no further assessment was undertaken.

In relation to *Dichanthium setosum* (Bluegrass) and *Homoranthus darwiniodes*, these species are known to occur in the Mudgee-Wollar region but were not recorded in the disturbance footprint area following targeted field surveys. Following consideration of impacts and assessment of significance in Appendix G of the BAR, the Department accepts that impacts to these species are unlikely and would not require further mitigation or offsetting.

In relation to the Brush-tailed Rock-wallaby, the project would directly impact on 37 ha of potential habitat (26.5 ha net area if relinquished areas are considered). No individuals were recorded in the modification footprint area following targeted surveys and the area has not been identified as supporting an important population. The closest recording of this species is 15 km from the proposed disturbance area. There are substantial areas of potential habitat in adjoining National Park estate. Following consideration of impacts on the Brush-tailed Rock-wallaby in Appendix G of the BAR, the Department accepts the finding of Ecological that impacts to this species are unlikely to be significant and would not require further mitigation or offsetting.

Nevertheless, under the NSW offsetting requirements, the Brush-tailed Rock-wallaby is identified as a species credit species that requires offsetting. The clearing of 39 ha generates 960 species credits. The proposed Gilgal offset area contains 3,781 species credits, based on 532.5 ha of available habitat. Under the NSW recommended offsetting arrangements, which is based on the net clearing (of 26.5 ha (693 species credits), the Department has recommended that the Gilgal offset area be used to retire 693 credits.

In relation to, the Spotted-tailed Quoll, the project would impact on 28 ha of potential habitat. Surveys undertaken for the project did not identify this species. The proposed disturbance areas are adjacent to areas previously disturbed for agricultural activities and are therefore unlikely to host den sites for this species. Following consideration of impacts on the Spotted-tailed Quoll in Appendix G of the BAR, the Department accepts the finding of Ecological that impacts to this species are unlikely to be significant and would not require further mitigation or offsetting.

Nevertheless, under the NSW offsetting requirements, the Spotted-tailed Quoll is identified as an ecosystem credit species that requires offsetting. The clearing of 28 ha generates 1,599 ecosystem credits. The proposed Gilgal offset area contains 3,781 species credits, based on 532.5 ha of available habitat. Under the NSW recommended offsetting arrangements, which is based on the net clearing of 19.5 ha, the Department has recommended that the Gilgal offset area be used to retire 1,071 credits against Plant Community Types (PCTs) associated with the habitat of the quoll.

In relation to the Painted Honeyeater, evidence of foraging of this species has not been recorded in the proposed disturbance area. While the proposed modifications would remove 28 ha of potential habitat, there is a large contiguous area of habitat available in areas adjacent to the mine. Following consideration of impacts and assessment of significance in Appendix G of the BAR, the Department accepts the finding of Ecological that impacts to these species are unlikely to be significant and would not require further mitigation or offsetting.

Nevertheless, under the NSW offsetting requirements, the Painted Honeyeater is identified as an ecosystem credit species that requires offsetting. The clearing of 28 ha generates 1,599 ecosystem credits. The proposed Gilgal offset area contains 3,781 species credits, based on 532.5 ha of available habitat. Under the NSW recommended offsetting arrangements, which is based on the net clearing of 19.5 ha, the Department has recommended that the Gilgal offset area be used to retire 1,071 credits against PCTs associated with the habitat of the Painted Honeyeater.

Species likely to be significantly impacted

Central Hunter Eucalypt Forest and Woodland CEEC

In relation to the Central Hunter Eucalypt Forest and Woodland CEEC, the proposals would remove around 2 ha of this community (*HU618/PCT1176 - Slaty Box - Grey Gum shrubby woodland on footslopes of the Upper Hunter Valley, Sydney Basin Bioregion*). Areas containing this community exist around the proposed disturbance areas, including within large areas of intact vegetation associated with the nearby Goulburn River National Park and the Munghorn Gap Nature Reserve.

Ecological concluded that it would be unlikely there would be a significant impact on this CEEC as the relinquishment areas contain 3.5 hectares of this community and therefore there would be a net reduction in clearing. However, as this is a separate controlled action the assessment must consider only the impacts of the proposed clearing, rather than the net clearing. The Department accepts DoEE's finding that there is likely to be a significant impact on this CEEC. The clearing of 2 ha of this CEEC generates 108 ecosystem credits.

The Gilgal Offset area includes 33.41 ha of Slaty Box - Grey Gum shrubby woodland on footslopes of

the upper Hunter Valley, Sydney Basin Bioregion which generates 291 credits. That is, there are sufficient credits in the Gilgal biodiversity offsets to retire credits to meet the Commonwealth offsetting requirements. For the NSW offset requirements there are no residual offsetting requirements as there is no net increase in clearing for this community.

For a consistent approach, an option that may be available is for the applicant to vary the relevant approved actions for the Moolarben Coal Mine site to formally relinquish clearing of the 3.5 ha of the Central Hunter Eucalypt Forest and Woodland CEEC identified in the modification application, subject to further DoEE assessment and approval.

There are no recovery plans or threat abatement plans for the Central Hunter Eucalypt Forest and Woodland CEEC. However, there is Conservation Advice for this CEEC (see discussion below).

Box Gum Woodland CEEC

In relation to Box-Gum Woodland, the proposals would remove around 5 ha of this community (including around 2 ha of woodland and 3 ha of derived native grassland). The relevant vegetation communities are:

- *PCT 281/ HU714 - Rough-Barked Apple - Red Gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion – clearing of 1.5 ha (53 ecosystem credits); and*
- *PCT 618/ HU730 - White Box - Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter – clearing of 3.5 ha (112 ecosystem credits).*

Substantial areas containing this community exist in the surrounds of the proposed disturbance areas, including within large areas of intact vegetation associated with the nearby Goulburn River National Park and the Munghorn Gap Nature Reserve. This community has been fragmented through disturbance from mining and agriculture.

Ecological concluded that it is unlikely that there would be a significant impact on Box Gum Woodland CEEC. However, the Department accepts DoEE's finding that there is likely to be a significant impact on the Box Gum Woodland CEEC and therefore the impacts require offsetting.

Under the NSW recommended offsetting arrangements, which is based on the net clearing of 4 ha of Box Gum Woodland, the Department has recommended that the Gilgal offset area be used to retire 35 credits for vegetation type HU714/ PCT 281 and that, as none of this PCT is available in the Gilgal offset area, the residual 73 credits for HU730 / PCT 618 be met by mine site rehabilitation of 27 ha.

For Commonwealth requirements, there are 224 credits (32.4 ha) available of HU714/ PCT 281 in the Gilgal offset area so there is sufficient to offset the 53 credits required for this community. Additional mine site rehabilitation to HU730/ PCT 618, equivalent to the full 112 credits would be required to meet the Commonwealth offsetting requirements for PCT 618. This would require approximately 41 ha of mine site rehabilitation, an additional 14 ha to the NSW rehabilitation requirements. For Commonwealth offsetting purposes, there are sufficient credits across both PCTs combined to meet the total credit liability of 156 credits for Box Gum Woodland.

However, for a consistent approach, an option that may be available is for the applicant to vary the relevant approved actions for the Moolarben Coal Mine site to formally relinquish clearing of the 1 ha of the Box Gum Woodland CEEC identified in the modification application, subject to further DoEE assessment and approval.

There is a recovery plan and threat abatement plan for Box Gum Woodland (see below).

Regent Honeyeater and Swift Parrot

In relation to the Regent Honeyeater and Swift Parrot, evidence of foraging of these species has not been recorded in the proposed disturbance area. The proposals would remove 31 ha of potential habitat for Regent Honeyeater and 28 ha of potential habitat for the Swift Parrot. There is large contiguous area of available habitat for these species in areas adjacent to the mine.

Regent Honeyeater is a species credit species under the FBA, and 31 ha of habitat loss results in 2,371 credits. Under the NSW recommended offsetting arrangements, which is based on the net clearing of 10.5 ha of Regent Honeyeater habitat, the Department has recommended that the Gilgal offset area be used to retire 1,568 credits to meet NSW offsetting obligations. The Gilgal offset area includes 589 ha of Regent Honeyeater habitat which generates 4,182 credits which is sufficient to meet the Commonwealth offset requirements. However, for a consistent approach, an option that may be available is for the applicant to vary the relevant approved actions for the Moolarben Coal Mine site to formally relinquish clearing of the 10.5 hectares of Regent Honeyeater habitat identified in the modification application, subject to further DoEE assessment and approval.

Swift Parrot is an ecosystem species under the FBA and is associated with 28 ha of habitat (associated with PCTs HU730, HU820, HU843, HU875 and HU883) within the disturbance footprint. This equates to 1,599 ecosystem credits.

Under the NSW recommended offsetting arrangements, the Department has recommended that the Gilgal offset area be used to retire 1,033 ecosystem credits (121.5 ha) and undertake mine-site rehabilitation of 150 ha to meet offset requirements for all PCTs and associated ecosystem species.

For Commonwealth offsetting requirements for the Swift Parrot there is sufficient credits available to meet offset requirements for three of the associated vegetation communities, with a shortfall of 127 ecosystem credits for HU730 and HU820 (see Table L1 below). Additional mine site rehabilitation would be required to address the shortfall in credits. For Commonwealth offsetting purposes, there would be sufficient credits available in the Gilgal offset area based on the 5 PCTs that provide habitat for the Swift Parrot (see Table L1 below). However, for a consistent approach, an option that may be available is for the applicant to vary the relevant approved actions for

the Moolarben Coal Mine site to formally relinquish 12 ha of clearing in the modification application, subject to further DoEE assessment and approval.

There is Conservation Advice, an Approved Recovery Plan and Threat Abatement Plans for the Regent Honeyeater and Swift Parrot (see below).

Large-eared Pied Bat and Corben's Long-eared Bat

In relation to Large-eared Pied Bat and Corben's Long-eared Bat, the potential habitat to be removed has not been identified as supporting an important population and alternative habitat would remain in surrounding areas. Large-eared Pied Bat is an ecosystem species under the FBA and is associated with all 39 ha of habitat proposed to be cleared within the disturbance footprint. This equates to 2,114 ecosystem credits.

Under the NSW recommended offsetting arrangements, the Department has recommended that the Gilgal offset area be used to retire 1,033 ecosystem credits (121.5 ha) and undertake mine-site rehabilitation of 150 ha to meet offset requirements for all PCTs and associated ecosystem species.

For Commonwealth offsetting requirements for the Large-eared Pied Bat there is sufficient credits available to meet offset requirements for four of the associated vegetation communities, with a shortfall of 531 ecosystem credits for vegetation communities HU730, HU820, HU883 and HU910 (see Table L1 below). Additional mine site rehabilitation would be required to address the shortfall in credits. For Commonwealth offsetting purposes, there would be sufficient credits available in the Gilgal offset area based on the 8 PCTs that provide habitat for the Large-eared Pied Bat (see Table L1 below). However, for a consistent approach, an option that may be available is for the applicant to vary the relevant approved actions for the Moolarben Coal Mine site to formally relinquish 12 ha of clearing in the modification application, subject to further DoEE assessment and approval.

Corben's Long-eared Bat is an ecosystem credit species with associated habitat areas the same as the Swift Parrot, as outlined above. That is, the residual offsets are as outlined above and in Table L1 below. For Commonwealth offsetting purposes, there would be sufficient credits available in the Gilgal offset area based on the 5 PCTs that provide habitat for the Corben's Long-eared Bat (see Table L1 below).

There is an approved Recovery Plan for the Large-eared Pied Bat and approved Conservation Advice for Corben's Long-eared Bat (see below).

Koala

In relation to the Koala, evidence of foraging of these species has not been recorded in the proposed disturbance area. The proposals would remove 4 ha of potential habitat for the Koala. However, the number of feed trees that would be cleared is considered insignificant in comparison the number of trees that would not be affected in surrounding areas. The proposed disturbance area does not support a Koala population.

The Koala is a species credit species under the FBA, and 4 ha of habitat loss results in 94 species impact credits. Under the NSW recommended offsetting arrangements, which is based on the net clearing of 3.5 ha (77 credits) of Koala habitat, the Department has recommended that the Gilgal offset area be used to retire 64 credits and the residual 13 credits be met by mine site rehabilitation to rehabilitate 4 ha of Koala habitat, to meet NSW offsetting obligations. For Commonwealth offsetting purposes additional area of mine site rehabilitation would be required to generate the additional credits. However, for a consistent approach, an option that may be available is for the applicant to vary the relevant approved actions for the Moolarben Coal Mine site to formally relinquish clearing of the 0.5 hectares of Koala habitat identified in the modification application, subject to further DoEE assessment and approval.

There is approved Conservation Advice for the Koala (see below).

Table H-1 – Summary of Impacts and Offsets for EPBC MNES

Vegetation Community / Species	Credits required	Gilgal Offset Credits available	Residual Credits
Ecosystem Credit Species			
Box Gum Woodland (5ha)			
PCT 281/ HU714	53	224	0
PCT 618/ HU730	112	0	112
TOTAL	156	224	112
Central Hunter Woodland (2 ha)			
PCT 1176/ HU618	108	291	0
Swift Parrot and Corben’s Long-eared Bat associated habitat (28 ha)			
PCT 618/ HU730	112	0	112
PCT 1606/HU820	190	175	15
PCT 1629/ HU8431	827	1,023	0
PCT 1661/ HU8752	237	1,709	0
PCT 1669/ HU8833	233	291	0
TOTAL	1,599	3,198	127
Large-eared Pied Bat associated habitat (39 ha)			
PCT 1176/ HU618	108	291	0
PCT 281/ HU714	53	224	0
PCT 618/ HU730	112	0	112
PCT 1606/HU820	190	175	15
PCT 1629/ HU8431	827	1,023	0
PCT 1661/ HU8752	237	1,709	0
PCT 1669/ HU8833	233	183	50
PCT 1696/ HU910	354	0	354
TOTAL	2,114	3,605	531
Species Credits Species			
Regent Honeyeater	2,371	4,182	0
Koala	94	64	30

Notes:

7. Under the FBA offsetting option rules PCT 1629/ HU843 can be offset by PCT 1660/HU874 (Narrow-leaved Ironbark heathy woodland on sandstone ranges of the Sydney Basin and Brigalow Belt South).
8. Under the FBA offsetting option rules PCT 1661/ HU875 can be offset by PCT 479/HU702 (Narrow-leaved Ironbark- Black Cypress Pine - stringybark +/- Grey Gum +/- Narrow-leaved Wattle shrubby open forest on sandstone hills in the southern Brigalow Belt South Bioregion and Sydney Basin Bioregion).
9. Under the FBA offsetting option rules PCT 1669/ HU883 can be offset by PCT 1176/HU618 (Slaty Box - Grey Gum shrubby woodland on footslopes of the upper Hunter Valley, Sydney Basin Bioregion). For Commonwealth offsetting requirements as the total impact is required to be offset rather than the net clearing following relinquishment of areas, 108 credits of the available 291 credits of HU618 are required to offset clearing of HU618 leaving a residual of 183 credits available to offset HU883 under the option rules. This leaves a residual offset liability of 50 credits.

H.2 Requirements for decisions about threatened species and endangered ecological communities

In accordance with Section 139 of the EPBC Act, in deciding whether or not to approve, for the purposes of a subsection of Section 18 or Section 18A of the Act, the taking of an action and what conditions to attach to such an approval, the Commonwealth Minister must not act inconsistently with certain international environmental obligations, Recovery Plans, or Threat Abatement Plans. The Commonwealth Minister must also have regard to relevant approved conservation advices.

Australia's international obligations

Australia's obligations under the *Convention on Biological Diversity* (Biodiversity Convention) include the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

The recommendations of this assessment report are not inconsistent with the Biodiversity Convention, which promotes environmental impact assessment (such as this process) to avoid and minimise adverse impacts on biological diversity. Accordingly, the recommended development consent requires avoidance, mitigation and management measures for listed threatened species and communities and all information related to the proposed action is required to be publicly available to ensure equitable sharing of information and improved knowledge relating to biodiversity.

Australia's obligations under the *Convention on Conservation of Nature in the South Pacific* (Apia Convention) include encouraging the creation of protected areas which together with existing protected areas would safeguard representative samples of the natural ecosystems occurring therein (particular attention being given to endangered species), as well as superlative scenery, striking geological formations and regions. Additional obligations include using their best endeavours to protect such fauna and flora (special attention being given to migratory species) so as to safeguard them from unwise exploitation and other threats that may lead to their extinction. The Apia Convention was suspended on 13 September 2006.

Recovery plans and approved conservation advice

Central Hunter Eucalypt Forest and Woodland CEEC

The Conservation Advice for Central Hunter Eucalypt Forest and Woodland CEEC aims to mitigate the risk of extinction of this community and help recover its biodiversity and function. The Department notes that there is no approved Recovery Plan for this CEEC that requires consideration under the EPBC Act.

While the project would clear 2 ha of this CEEC, equivalent to 108 ecosystem credits, the Gilgal offset area includes 33.41 ha of this CEEC equivalent to 291 ecosystem credits sufficient to satisfy offset liability. The Department notes that, while this is a separate controlled action and the total clearing is required to be assessed, there would be a net reduction in the clearing of this CEEC through the relinquishment of 3.5 ha that is approved to be cleared.

That is overall, the proposed modification would not lead to further reduction in the extent of clearing of this CEEC. As discussed above, there is an option to revise the approved controlled action actions to relinquish approved impacts, subject to separate review and approval by DoEE.

Box Gum Woodland CEEC

The recovery plan for Box Gum Woodland aims to achieve no net loss in extent and condition. The Department notes that there is no approved conservation advice for Box Gum Woodland CEEC that requires consideration under the EPBC Act.

While the project would clear 2 ha of the Box Gum Woodland CEEC and 3 ha of derived native grassland, substantive offsets are proposed such that the action would not be inconsistent with the Recovery Plan.

In particular, the Gilgal offset area includes 32 ha of Box Gum Woodland in total equivalent to 224 ecosystem credits. However, as outlined above there is a shortfall in vegetation community HU730 that would require additional mine site rehabilitation to meet the shortfall.

The Biodiversity Management Plan and Biodiversity Stewardship Agreements require detailed management actions and monitoring programs to maintain and/or improve the condition of Box Gum Woodland within these offset areas and to manage impacts on Box Gum Woodland at the project site.

Regent Honeyeater

The Department has considered the approved Conservation Advice and National Recovery Plan under the EPBC Act in assessing the impacts of the project on the Regent Honeyeater and notes that the main threats and causes for decline in population are clearing, fragmentation and degradation of its habitat.

The National Recovery Plan includes a number of objectives, recommendations and actions relevant to the project including maintaining and enhancing the value of Regent Honeyeater habitat and monitoring trends in Regent Honeyeater population size and dispersion.

While there is clearing of 31 ha of Regent Honeyeater habitat, noting that the modification proposes to relinquish 10.5 ha of approved clearing, the Gilgal offset area contains 589 ha of Regent Honeyeater habitat with sufficient area and credits available to fully offset the impact.

The Department considers that with the proposed site mitigation and offset measures (see Section 6.6 of the assessment report), the action would not be inconsistent with the Conservation Advice or the objectives of the Recovery Plan. The Department has recommended conditions to formalise these measures (refer to Schedules 3 and 4 of the recommended conditions in Appendix I). Key actions of the Recovery Plan including monitoring would also be implemented as part of the Biodiversity Management Plan and/or the Stewardship Agreement for the site and offset areas.

Swift Parrot

The Department has considered the approved Conservation Advice and National Recovery Plan under the EPBC Act in assessing the impacts of the project on the Swift Parrot and notes that one of the main the main threats and causes for decline in population are habitat loss and alteration, relevant to the consideration of the project impacts.

The National Recovery Plan includes an overall objective to prevent further population decline of the Swift Parrot and to achieve a demonstrable sustained improvement in the quality and quantity of Swift Parrot habitat to increase carrying capacity. The objectives include a range of monitoring and management strategies to meet the overall objective.

While there is clearing of 28 ha of Swift Parrot habitat, noting that the modification proposes to relinquish 8.5 ha of approved clearing, the Gilgal offset area contains 366 ha of Swift Parrot habitat with sufficient land-based offset area and credits available to offset 92% of the impact (see Table L1 above) with the residual offset through mine site rehabilitation.

The Department considers that with the proposed site mitigation and offset measures (see Section 6.6 of the assessment report), the action would not be inconsistent with the Conservation Advice and objectives of the Recovery Plan. The Department has recommended conditions to formalise these measures (refer to Schedules 3 and 4 of the recommended conditions in Appendix I). Key actions of the Recovery Plan including monitoring would also be implemented as part of the Biodiversity Management Plan and/or Stewardship Agreement for the site and offset areas.

Large-eared Pied Bat

The Department has considered the approved National Recovery Plan under the EPBC Act in assessing the impacts of the project on the Large-eared Pied Bat and notes the overall objective is to ensure the persistence of viable populations throughout its geographic range.

While there is clearing of 39 ha of Large-eared Pied Bat habitat, noting that the modification proposes to relinquish 15 ha of approved clearing, the Gilgal offset area contains 398 ha of Large-eared Pied Bat habitat with sufficient land-based offset area and credits available to offset 85% of the impact (see Table H-1 above) with the residual offset through mine site rehabilitation.

The Department considers that with the proposed site mitigation and offset measures (see Section 6.6 of the assessment report), the action would not be inconsistent with the overall objective of the Recovery Plan. The Department has recommended conditions to formalise these measures (refer to Schedules 3 and 4 of the recommended conditions in Appendix I). Key actions of the Recovery Plan including monitoring would also be implemented as part of the Biodiversity Management Plan and/or Stewardship Agreement for the site and offset areas.

The Department has recommended conditions to formalise these measures (refer to Schedules 3 and 4 of the recommended conditions in Appendix I).

Corben's Long-eared Bat

The Department has considered the approved Conservation Advice in assessing the impacts of the project on Corben's Long-eared Bat and notes that the main threats and causes for decline in population are habitat loss and fragmentation, relevant to the consideration of the project impacts.

The Conservation Advice actions include protection of known habitat, feral animal control programs, grazing and fire management.

While there is clearing of 28 ha of Corben's Long-eared Bat habitat, noting that the modification proposes to relinquish 8.5 ha of approved clearing, the Gilgal offset area contains 366 ha of habitat with sufficient land-based offset area and credits available to offset 92% of the impact (see Table L1 above) with the residual offset through mine site rehabilitation.

The Department considers that with the proposed site mitigation and offset measures (see Section 6.6 of the assessment report), the action would not be inconsistent with the Conservation Advice and objectives of the Recovery Plan. The Department has recommended conditions to formalise these measures (refer to Schedules 3 and 4 of the recommended conditions in Appendix I). Key actions of the Recovery Plan including monitoring would also be implemented as part of the Biodiversity Management Plan and/or Stewardship Agreement for the site and offset areas.

Koala

The Department has considered the approved Conservation Advice in assessing the impacts of the project on the Koala which identifies one of the main threats due to loss and fragmentation of habitat, which is relevant to the consideration of the project impacts.

While there is clearing of 4 ha of Koala habitat, noting that the modification proposes to relinquish 0.5 ha of approved clearing, the Gilgal offset area contains 9 ha of habitat with sufficient land-based offset area and credits available to offset 68% of the impact (see Table L1 above) with the residual offset through mine site rehabilitation.

The Department considers that with the proposed site mitigation and offset measures (see Section 6.6 of the assessment report), the action would not be inconsistent with the Conservation Advice and objectives of the Recovery Plan. The Department has recommended conditions to formalise these measures (refer to Schedules 3 and 4 of the recommended conditions in Appendix I). Key actions of the Recovery Plan including monitoring would also be implemented as part of the Biodiversity Management Plan and/or Stewardship Agreement for the site and offset areas.

Threat abatement plans (TAPs)

The threat abatement plans relevant to this action are discussed below and are available at <http://www.environment.gov.au/biodiversity/threatened/threat-abatement-plans/approved>.

- **Threat abatement plan for disease in natural ecosystems caused by *Phytophthora cinnamomi* (relevant to Box Gum Woodland)**

Phytophthora cinnamomi (*P. cinnamomi*) is a microscopic soil-borne organism that has the ability to cause plant disease and plant death by interfering with the movement of water and nutrients to plants. It can be spread in water, soil or plant material that contains the pathogen and dispersal is favoured by moist or wet conditions. It can be carried in both overland and subsurface water flow and by water moving infested soil or organic material. Native and feral animals have been implicated in spreading *P. cinnamomi*, particularly where there are digging behaviours. Humans, however, have the capacity to disturb and transport more soil than any other vector.

The Box Gum Woodland is identified as an ecological community that may be affected by *P. cinnamomi*.

The Department notes that, construction related activities have the potential to introduce or spread the pathogen through the movement of vehicles; the use of construction equipment/tools for breaking ground; footwear; or the introduction of infested soil or building materials to currently un-infested areas. The threat abatement plan for managing the impacts of *P. cinnamomi* identifies actions to minimise its spread to un-infested sites and mitigate impacts at infested sites.

The Department has recommended that actions to avoid and mitigate the spread of this plant disease are implemented as part of a Biodiversity Management Plan. Subject to this recommended condition, the Department considers approval of the proposed action would not be inconsistent with the threat abatement plan for disease in natural ecosystems caused by *P. cinnamomi*.

- **Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs (relevant to Box Gum Woodland)**

Feral pigs impact on native ecosystems and flora and fauna due to their presence, movement, rooting, wallowing, trampling, tusking or rubbing trees and consumption of water, animals, plants and soil organisms. Direct impacts from feral pigs include predation, habitat loss and degradation, competition and disease transmission, which can impact on native flora and fauna.

- **Threat abatement plan for competition and land degradation by rabbits (relevant to Regent Honeyeater)**

Rabbits have direct impacts on native flora and fauna, for example, by grazing on native vegetation and thus preventing regeneration and by competing with native fauna for habitat and food. Rabbits also have indirect and secondary effects, such as supporting populations of introduced predators and denuding vegetation, thereby exposing fauna species to increased predation. Their ecology, including digging and browsing also leads to a loss of vegetation cover and consequent slope instability and soil erosion, which further degrades fauna habitat.

- **Threat abatement plan for predation by feral cats (relevant to Swift Parrot)**

Feral cats are significant predators in Australia that interact with native fauna in various ways, including predation, competition for resources and transmission of disease.

Measures to control feral animals are recommended in the development consent conditions which would be implemented as part of a Biodiversity Management Plan and/or Stewardship Agreement(s) for the site and offset areas.

Therefore, the Department considers the approval of the action would not be inconsistent with the threat abatement plan for competition and land degradation by unmanaged goats; rabbits; and feral cats; predation, habitat degradation, competition and disease transmission by feral pigs.

- **Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads (relevant to Box Gum Woodland)**

While cane toads have the potential to colonise new habitats created by the construction of sediment and detention basins, this species is not known to occur in the region and it is therefore unlikely that disturbance as a result of the proposed action would lead to the presence of cane toads.

H.3 Requirements for decisions about world heritage properties

The Commonwealth determined that the action is not a controlled action for the controlling provision of World Heritage (Section 12 and Section 15A of the EPBC Act) and therefore further consideration is not required.

H.4 Requirements for decisions about national heritage places

The Commonwealth determined that the action is not a controlled action for the controlling provision of National Heritage (Section 15B and Section 15C of the EPBC Act) and therefore further consideration is not required.

H.5 Additional EPBC Act considerations

Table L2 contains the additional mandatory considerations, factors to be taken into account and factors to have regard under the EPBC Act additional to those already discussed.

Table H-2 – Additional considerations for the Commonwealth Minister under the EPBC Act

EPBC Act section	Considerations	Conclusion
Mandatory considerations		
136(1)(b)	Social and economic matters are discussed in Sections 2 and 6 of the assessment report.	The Department considers that the proposed development would result in a range of benefits for the local and regional economy and is of public benefit. Negative social impacts, particularly on the local community residing in the area have been considered in the assessment of the development.
Factors to be taken into account		
3A, 391(2)	Principles of ecologically sustainable development (ESD), including the precautionary principle, have been taken into account, in particular: <ul style="list-style-type: none"> • the long term and short term economic, environmental, social and equitable considerations that are relevant to this decision; • conditions that restrict environmental impacts and impose monitoring and adaptive management, reduce any lack of certainty related to the potential impacts of the Moolarben Coal Mine; • conditions requiring the project to be delivered and operated in a sustainable way to protect the environment for future generations and conserving the relevant matters of national environmental significance; • advice provided within this report reflects the importance of conserving biological diversity, ecological and cultural integrity in relation to all of the controlling provisions for this project; and • mitigation measures to be implemented which reflect improved valuation, pricing and incentive mechanisms are promoted by placing a financial cost on the proponent to mitigate the environmental impacts of the project. 	The Department considers that the project, if undertaken in accordance with the recommended conditions of consent, would be consistent with the principles of ESD.
136(2)(e)	Other information on the relevant impacts of the action – the Department is not aware of any relevant information not addressed in this assessment report.	The Department considers that all information relevant to the impacts of the project has been taken into account in this recommendation.
136(2)(fa)	Advice was sought from the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC).	The Department has reviewed the advice and recommendations of the IESC, and considered Moolarben Coal’s response to these matters in Section 6.3.
Factors to have regard to		
176(5)	Bioregional plans	There is no approved bioregional plan related to the activity.
Considerations on deciding on conditions		
134(4)	Must consider: <ul style="list-style-type: none"> • information provided by the person proposing to take the action or by the designated proponent of the action; and • the desirability of ensuring as far as practicable that the condition is a cost-effective means for the Commonwealth and the person taking the action to achieve the object of the condition. 	All project related documentation is available from the Department’s website www.majorprojects.planning.nsw.gov.au . The Department considers that the conditions at Appendix I are a cost-effective means of achieving their purpose. The conditions are based on the material provided by Moolarben Coal that was prepared in consultation with the

EPBC Act section	Considerations	Conclusion
		Department, DoEE, DPI Water, EPA, OEH and other agencies.

H.6 Conclusions on controlling provisions

Threatened species and communities (Sections 18 and 18A of the Act)

For the reasons set out in Section 6.6 and this Appendix, the Department recommends that the impacts of the action would be acceptable, subject to avoidance, mitigation measures described in Moolarben Coal's Environmental Assessment and RTS and additional advice provided to the Department and the recommended conditions of consent in Appendix I.

A water resource, in relation to coal seam gas development and large coal mining development (Sections 24D and 24E of the Act)

For the reasons set out in Section 6.3 and this Appendix, the Department recommends that the impacts of the action on a water resource, in relation to coal seam gas development and large coal mining development would be acceptable, subject to the avoidance, mitigation measures described in Moolarben Coal's Environmental Assessment and RTS and additional advice provided to the Department and the recommended conditions of consent in Appendix I.

H.7 Other protected matters

The Commonwealth Department of the Environment and Energy determined that other matters under the EPBC Act are not controlling provisions with respect to the proposed action. These include listed World Heritage, National Heritage, migratory species, Ramsar wetlands, Commonwealth marine environment, Commonwealth land, Commonwealth action, nuclear action, and Great Barrier Reef Marine Park and Commonwealth Heritage places overseas.