

APPENDIX D: MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE UNDER THE EPBC ACT

The Drayton South Coal Project (the project) was declared to be a 'controlled action' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), given the likely significant impacts on listed threatened species and communities and water resources. In making this determination, the delegate for the Commonwealth Minister for the Environment determined that the project would be assessed under the assessment bilateral between the Commonwealth and NSW Governments. Consequently, the potential impacts on EPBC Act controlling provisions have been assessed under Part 4 of the EP&A Act.

In accordance with the bilateral agreement between the Commonwealth and NSW Governments, the Department provides the following additional information for the Commonwealth Minister in deciding whether or not to approve a proposal under the EPBC Act.

The Department's assessment has been prepared in consideration of the information contained in Sections 7.8 and 7.9 and Appendix M of the Environmental Impact Statement (EIS) for the project, Anglo's Response to Submissions, public and agency submissions and advice provided by the NSW Office of Environment and Heritage (OEH).

This assessment is supplementary to, and should be read in conjunction with, the assessment included in Section 6.4 and Appendix L of the Department's Preliminary Assessment Report (the preliminary report). Accordingly, the Commonwealth Minister should have regard to those parts of the preliminary report.

D.1 Overview of impacts on Matters of National Environmental Significance (MNES)

As discussed in detail in Section 6.4.1 of the preliminary report, the project would involve the disturbance of approximately 1,447 ha of native vegetation, including around 22 ha of the EPBC Act listed *White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grasslands Critically Endangered Ecological Community* (White-box Grassy Woodland CEEC), as shown in **Table D1**.

Table D1: Extent of White-box Grassy Woodland CEEC proposed to be impacted

EPBC listed community	NSW Plant Community Type (PCT) [and formation]	Condition	Area (ha)
White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grassland CEEC	Hunter Floodplain Red Gum Woodland (HU599) [Forested Wetlands]	Moderate/ Good	10.9
	Upper Hunter White Box – Ironbark Grassy Woodland (HU820) [Dry Sclerophyll Forests (shrubby)]	Moderate/ Good	3.8
	DNG – Hunter Floodplain Red Gum (HU599) [Forested Wetlands]	Low	4.3
	DNG – Upper Hunter White Box – Ironbark Grassy Woodland (HU820) [Dry Sclerophyll Forests (shrubby)]	Low	2.7
TOTAL			21.7

In addition, the EIS considered that in the absence of appropriate mitigation and offset measures, the project could have adverse impacts on one other EPBC Act listed CEEC and 11 threatened species, as shown in **Table D2**. During the referral process two additional threatened plants (Illawarra Greenhood and Austral Toadflax) were identified as being relevant for consideration for this project.

Table D2: Summary of likely direct impacts on EPBC Act listed threatened species

EPBC listed species	EPBC Act Status	Potential Area (ha)	Impact
Regent Honeyeater (<i>Anthochaera Phrygia</i>)	Critically Endangered	291	Clearance of potential foraging habitat
Swift Parrot (<i>Lathamus discolor</i>)	Endangered		
Spotted-tail Quoll (<i>Dasyurus maculatus</i> subsp. <i>Maculatus</i>) Tiger Quoll: southeastern mainland population	Endangered		
Leek orchid (<i>Prasophyllum</i> sp. <i>Wybong</i>)	Critically Endangered	1,438	Potential clearing of habitat
Slaty Red Gum (<i>Eucalyptus glaucina</i>)	Vulnerable	291	Not present
Rufous Pomaderris (<i>Pomaderris brunnea</i>)	Vulnerable	0	
Koala (<i>Phascolarctos cinereus</i>): combined populations of Qld, NSW and the ACT	Vulnerable	291	Unlikely to be on site

Green and Golden Bell Frog (<i>Litoria aurea</i>)	Vulnerable	0	Unsuitable habitat Clearance of potential foraging / roosting habitat
Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>)	Vulnerable	286	
Large-eared Pied Bat (<i>Chalinolobus dwyeri</i>)	Vulnerable		
South-eastern Long-eared Bat (<i>Nyctophilus corbeni</i>)	Vulnerable		
Weeping Myall Shrubland in the Hunter Valley CEEC	Critically Endangered	0	Not present on site
Illawarra Greenhood (<i>Pterostylis gibbosa</i>)	Endangered	0	
Austral Toadflax (<i>Thesium australe</i>)	Vulnerable	1,438	

The EPBC Act Referral Decision Brief of 22 January 2015 determined the project to be a controlled action due to its likely significant impacts on White-box Grassy Woodland, Regent Honeyeater, Swift Parrot and Spotted-tailed Quoll. Having considered the likely impacts of the project, the Department concurs that in the absence of appropriate offsetting and mitigation measures, the project has the potential to significantly impact these threatened species and CEEC, as well as the Greater Long-eared Bat and the Large-eared Pied Bat as identified by Anglo and discussed in Tables A.4 - A.6 in Appendix A to Appendix M of the EIS. Consequently, these six MNES form the focus of the following assessment. It is also noted that the project would remove approximately 274 ha of *Central Hunter Eucalypt Forest and Woodland* CEEC. However, given that this CEEC was listed on 7 May 2015, after the date of the EPBC Act decision, this CEEC does not need to be considered for this project.

Impacts on water resources, in relation to coal seam gas and large coal mining developments, have also been identified as a controlling provision under the EPBC Act. Accordingly, the Department and the Commonwealth Department of the Environment (DoE) made a joint referral to the IESC. Anglo provided a response to the advice from the IESC and this was considered in the Department's assessment. A detailed assessment of potential impacts from the project on water resources is contained in Section 6.5 of the Department's preliminary report. Following its assessment, the Department was satisfied that the project could be managed to avoid significant impacts on water resources. Furthermore, the Department notes that DPI Water is satisfied that Anglo could obtain any additional licences required to account for the predicted maximum water take from relevant water sources and has advised that the project would meet the Level 1 impact assessment criteria under the AIP and is unlikely to result in a distinguishable change to the water quality within the Saddlers Creek and Hunter River alluvial aquifers. Given that the assessment of potential impacts on water resources was addressed in detail in the preliminary report, it has not been reiterated in detail in this Appendix.

D.2 Impacts to listed threatened species and communities

The assessment of significance for MNES has been undertaken by Anglo and is contained in Tables A.4 - A.6 in Appendix A to Appendix M of the EIS. This assessment concluded that, in the absence of suitable mitigation and compensation measures, the project would likely have a significant impact on three of the four threatened entities identified in the Commonwealth's Referral Decision Brief (being the White-box Grassy Woodland, Regent Honeyeater and Swift Parrot) as well as on the Greater Long-eared Bat and the Large-eared Pied Bat. OEH's advice on the project agreed that Anglo's conclusions were reasonable and that the project could result in impacts on these species and CEEC.

However, the EIS argued that the project would be unlikely to significantly impact the Spotted-tailed Quoll, the fourth species listed in the Commonwealth's Referral Decision Brief. In consideration of additional information provided by Anglo and the DoE, the Department supports DoE's position that, in the absence of appropriate avoidance and mitigation measures, the project would be likely to cause significant impacts to the Spotted-tailed Quoll. This is discussed further in the preliminary report.

D.3 Proposed Offset Package

Anglo proposes to compensate any residual impacts to MNES through a biodiversity offset package and a range of mitigation measures. A detailed description of the proposed biodiversity offsets is contained in Section 7.9 and Volume 4 of the EIS and Section 6.4.4 of the Department's preliminary report. In summary, Anglo proposes to offset residual biodiversity impacts through:

- offset areas within and adjoining the project boundary;
- an offset area at an offsite location approximately 75 km from the project site (the Temi offset);
- rehabilitation of mining disturbance areas to woodland; and
- supplementary offset measures for individual threatened flora species.

These are in addition to and complement the existing biodiversity offsets at the Drayton mine.

In broad terms, Anglo is proposing to offset the clearing of 1,447 ha of native vegetation (woodland and grassland) by conserving and improving the condition of 2,232 ha of native vegetation, and rehabilitating a further 1,127 ha of woodland in the post-mining landscape (an overall ratio of 2.3 to 1).

In terms of the MNES specifically, the proposed onsite offsets contain approximately 20 ha of *White Box-Yellow Box-Blakely's Red Gum Woodland* and approximately 62 ha of associated Derived Native Grassland; and the offsite offset contains approximately 519 ha of *White Box-Yellow Box-Blakely's Red Gum Woodland* and 773 ha of associated Derived Native Grassland.

An assessment of the impact areas and offset areas was completed in accordance with OEH's Framework for Biodiversity Assessment (FBA) to determine the ecosystem and species credits required to offset the project's impacts. OEH reviewed the FBA assessment provided by Anglo and provided advice which states that the proponent proposes to '*appropriately compensate impacts on MNES through a biodiversity offset package and a range of mitigation measures*'.

The Department notes that the project falls within the transitional period for the *NSW Policy for Offsetting for Major Projects*, published in September 2014. To avoid perverse outcomes during the transitional period, there is provision for some flexibility in the application of the FBA, including consideration of establishing biodiversity offsets in neighbouring bioregions. This is an important consideration for the project, as some of the proposed offsets for White-box Grassy Woodland are located approximately 75 km north of the project site in the Peel sub-region of the Nandewar Bio-region (a neighbouring bio-region) but near its border with the Hunter sub-region. In considering the transitional arrangements, the EIS has argued that this flexible approach should be applied to ensure that an adequate quantum of White-box Grassy Woodland is provided.

As stated by OEH, Anglo has provided a clear case that 22 ha of White-box Grassy Woodland on the project site, 82 ha on the onsite offset and 1293 ha on the offsite offset meet the EPBC Act definition of '*White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grasslands CEEC*'. On this basis, OEH has advised that the onsite and offsite offsets together provide a sufficient area of White-box Grassy Woodland to offset the project's impacts.

The Department considers that the proposed offset package is likely to address all significant residual adverse impacts of the project to listed threatened species and communities. Specifically, the Department notes that the proposed offsets are known to contain vegetation consistent with the White-box Grassy Woodland, as well as likely foraging habitat for the impacted listed species. The proposed offsets also demonstrably meet the 'like for like' principle of the *EPBC Act Environmental Offsets Policy (2013)*.

D.4 Demonstration of 'avoid, mitigate, offset' for MNES

A detailed discussion of the measures undertaken or proposed to avoid, mitigate and offset impacts to biodiversity, including to MNES, is contained in Section 7.8.5 of the EIS.

In summary, the development footprint of the project has been reduced from previous concepts which has reduced the expected impact on White-box Grassy Woodland from about 159 ha to approximately 22 ha. This reduction in clearing of remnant woody vegetation also helps to retain food and foraging resources for the Regent Honeyeater, Swift Parrot, Spotted-tailed Quoll and Grey-headed Flying-fox.

In addition to these avoidance measures, a number of specific mitigation measures have been proposed to address the likely impacts of the project on MNES (discussed in detail in Section 7.8.5 and Appendix M of the EIS). These measures also aim to address a range of indirect impacts on MNES associated with noise, light, dust, erosion, vehicle strike, weeds, feral animals and over-abundant native species. To account for any residual impacts that cannot be addressed through the proposed avoidance and mitigation measures, Anglo has proposed a comprehensive offset strategy.

Since the preliminary report, OEH has provided technical advice which states that the proponent proposes to '*appropriately compensate impacts on MNES through a biodiversity offset package and a range of mitigation measures*'. OEH has also recommended a number of conditions of consent that have been considered in the Department's recommended conditions.

As identified above, this biodiversity offset package has been assessed as adequately addressing the *EPBC Act Environmental Offsets Policy (2013)*. Further detailed consideration and assessment of the likely impacts for individual fauna species and the adequacy of the biodiversity offset package is provided in Section 6.4 and Appendix L of the preliminary report.

D.5 Assessment of Residual Impacts

An assessment of the impacts to White-box Grassy Woodland and threatened species identified as likely to be significantly impacted by the project are discussed in further detail below, considering the proposed mitigation and compensation measures.

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (White-box Grassy Woodland)

White-box Grassy Woodland occurs in an arc along the western slopes and tablelands of the Great Dividing Range from Southern Queensland through NSW to central Victoria. In NSW it occurs in the Brigalow Belt South, Nandewar, New England Tableland, Sydney Basin, NSW North Coast, South Eastern Highlands, South East Corner and NSW South Western Slopes bioregions. Estimates are that less than 0.1% of White-box Grassy Woodlands remains in a near-intact condition, with much of the original extent cleared for agriculture.

The preliminary report's assessment of impacts stated that the project is likely to have direct and indirect impacts on approximately 22 ha of White-box Grassy Woodland at a local level. However, the proposed biodiversity offset package has identified significant areas of White-box Grassy Woodland which would be conserved and managed for biodiversity gains. This management is detailed in the EIS and includes revegetation and restoration activities aimed at improving the quality and extend of White-box Grassy Woodland in the region. The Department's analysis of these impacts, including relevant management, mitigation and offset strategies, has concluded that an impact to the national occurrence of this ecological community is unlikely to occur beyond identified localised impacts.

Regent Honeyeater

The Regent Honeyeater is endemic to southeast Australia, where it is widespread but with an extremely patchy distribution. Its range extends from southeast Queensland to central Victoria. Most sightings originate from a few sites in northeast Victoria, along the western slopes of the Great Dividing Range in NSW, and the Central Coast in NSW. In 2011, key breeding areas for the Regent Honeyeater were identified as the Chiltern section of the Chiltern-Mt Pilot National Park in northeast Victoria, the Capertee Valley in central east NSW and the Bundarra-Barraba region in northern NSW.

The preliminary report's assessment of impacts noted that the project is likely to have direct and indirect impacts on the Regent Honeyeater at a local level. The Department's analysis of these impacts, including relevant management and mitigation strategies, has concluded that a significant change to the national occurrence of this species is unlikely to occur beyond identified localised impacts. While some foraging habitat will be removed and degraded through the construction and operation of the project the proposed biodiversity offsetting package will conserve and improve areas of foraging habitat in close proximity of the impacts. The Department considers that these actions are likely to retain and improve foraging resources in the region for the Regent Honeyeater to utilise. Breeding habitat will not be impacted by the project and breeding behaviour for this species is not expected to be impacted by the project. Based upon the retention and improvement of foraging habitat and absence of impacts to breeding habitat the project is considered unlikely to result in any significant impacts on the prevalence, reproductive success and survival of this species.

Swift Parrot

The Swift Parrot is endemic to south-eastern Australia. It breeds only in Tasmania, and migrates to mainland Australia in autumn. The breeding range is always within 8 km of the Tasmanian coast, largely restricted to an area of less than 500 km² along the eastern coastal strip between Saint Helens and Lune River, including nearshore islands such as Maria Island and Bruny Island.

This species is semi-nomadic during winter, foraging primarily in dry woodland areas located in Victoria and NSW. Small but significant numbers have been recorded regularly in south-eastern Queensland and occasionally in the Australian Capital Territory and south-eastern South Australia.

The preliminary report's assessment of impacts stated that the project was likely to have direct and indirect impacts on the Swift Parrot at a local level. While foraging habitat will be removed and degraded through the construction and operation of the project, the proposed biodiversity offsetting package will conserve and improve areas of similar habitat in close proximity to the habitat resources being removed. These actions are likely to retain and improve foraging resources in the region for the Swift Parrot to utilise. Breeding habitat will not be impacted by the project and breeding behaviour for this species is not expected to be impacted by the project.

The Department's analysis of these impacts, including relevant management, mitigation and offset strategies, has concluded that an impact to the national occurrence of this species is unlikely to occur. While the project would have some localised impacts on foraging habitat, based upon the retention and improvement of the overall foraging habitat in the region under the Biodiversity Offset Strategy and considering absence of impacts to breeding habitat, the project is considered unlikely to result in any significant impacts on the prevalence, reproductive success and survival of this species.

Spotted-tailed Quoll

The Spotted-tailed Quoll was historically distributed across southeast Queensland, eastern NSW, Victoria, southeast South Australia and Tasmania. However, the subspecies' range on the mainland has reduced by 50–90%. Detailed distribution records and abundance estimates are generally lacking due to the scale and intensity of surveying that is required to detect the species across its entire range. Figures from 2004 suggest there are 44 known sites in NSW, 16 sites in the ACT and four to five sites in Victoria.

In NSW, Spotted-tailed Quoll records are generally confined to within 200 km of the coast but range from the Queensland border to Kosciuszko National Park. Locations include the Hunter Valley, Taree, Port Macquarie and Coffs Harbour through to the gorges and escarpments of the New England Tableland. There are several disjunct populations between the Border Ranges and the Blue Mountains/Illawarra area.

The preliminary report's assessment of impacts stated that the project is likely to have direct and indirect impacts on the Spotted-tailed Quoll at a local level. While habitat will be removed and degraded through the construction and operation of the project the proposed biodiversity offsetting package will conserve and improve areas of similar habitat in close proximity of the impacts. These actions are likely to retain and improve habitat in the region for the Spotted-tailed Quoll to utilise. Based upon the retention and improvement of suitable habitat it is likely the species will continue to occupy this region. The Department's analysis of these impacts, including relevant management, mitigation and offset strategies, has concluded that an impact to the national occurrence of this species is unlikely to occur beyond identified localised impacts as foraging habitat would be maintained and improved in the region and breeding habitat would not be impacted.

Overall, the Department is satisfied that the project is unlikely to result in any significant impacts on the prevalence, reproductive success and survival of this species.

Large-eared Pied Bat

This species' current distribution is poorly known. Records exist from Shoalwater Bay, north of Rockhampton in Queensland, through to the vicinity of Ulladulla in southern NSW. Despite the large range, it has been suggested that the species is far more restricted than previously understood.

Much of the known distribution is within NSW, with available records suggesting that the largest population concentrations are in the sandstone escarpments of the Sydney Basin and the northwest slopes. Although the species is widely distributed, it is uncommon and patchy across this area. Sightings of note include at Tottenham, west of Narromine NSW (the western-most record); Swansea Open Cut Mine area on the Wallarah Peninsula, Central Coast NSW; a disused gold mine near Barraba in north-eastern NSW that included lactating females and dependent young; and Morton National Park NSW at the southern end of the known range.

The preliminary report's assessment of impacts stated that the project is likely to have direct and indirect impacts on the Large-eared Pied Bat at a local level, specifically to foraging habitat. The EIS identified that the project area would not impact on identified breeding or roosting habitat, inclusive of any sandstone cliffs, caves or rock outcrops. While foraging habitat will be removed and degraded through the construction and operation of the project the proposed biodiversity offsetting package will conserve and improve areas of similar habitat in close proximity to the impacts. These actions are likely to retain and improve foraging resources in the region for the Large-eared Pied Bat to utilise. The Department's analysis of the likely project impacts, including relevant management, mitigation and offset strategies, has concluded that a significant change in the national occurrence of this species is unlikely to occur beyond identified localised impacts.

Overall, the Department considers that given foraging habitat would be maintained and improved in the region and that there would be no impacts to breeding habitat, the project is unlikely to result in any significant impacts on the prevalence, reproductive success and survival of this species.

South-eastern Long-eared Bat

The South-eastern Long-eared Bat (also known as the Greater Long-eared Bat) has a limited distribution restricted to the Murray-Darling Basin in south-eastern Australia. Even in this region its distribution is scattered and it is rarely recorded. It occurs in far eastern South Australia, in areas north of the Murray River, east of Canegrass Station and south of the Barrier Highway. These areas include the Riverland Biosphere Reserve, Danggali Conservation Park and the Birds Australia Gluepot Reserve. It is distributed throughout inland NSW except in the northwest which is dominated by treeless plains. It can be found in the Hunter Valley, extending from central NSW to the eastern Hunter Valley coast. Records also indicate populations in River Red Gum (*Eucalyptus camaldulensis*) forests along the Murray River. The South-eastern Long-eared Bat is rare throughout most of its distribution. In some areas however, it is more commonly recorded. These areas include the Brigalow Belt South and Nandewar Bioregions in north-eastern NSW.

The preliminary report's assessment of impacts stated that the project is likely to have direct and indirect impacts on the South-eastern Long-eared Bat. This species has been recorded in and near the project site multiple times, with both foraging and potential breeding habitat (tree hollows) identified as likely to be cleared. The assessment provided by Anglo identified the project area as core habitat for this species due to the presence of foraging and roosting habitat as well as multiple on-site records since 2000. The Department's analysis of these impacts, including relevant management and mitigation strategies, has concluded that while areas of core habitat for this species would be removed as part of the project, sufficient alternative areas of breeding and roosting habitat would be conserved and managed for conservation through the proposed biodiversity offset package. The Department considers that the conservation and management of these areas make it likely the species would persist in the region and that the project would not have a significant change in its national occurrence.

D.6 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 from the use 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 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 approval 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* (the 'Apia Convention') include encouraging the creation of protected areas which together with existing protected areas safeguard representative samples of the natural ecosystems occurring therein (with particular attention to endangered species), as well as superlative scenery, striking geological formations and regions. Additional obligations include using 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. While this Convention has been suspended, Australia's obligations under the Convention have been taken into consideration. The recommendations are not inconsistent with the Convention and its aim for the conservation of biodiversity.

The *Convention on International Trade in Endangered Species of Wild Flora and Fauna* (CITES) is an international agreement between governments which seeks to ensure that international trade in specimens of wild animals and plants does not threaten their survival. The recommendations are not inconsistent with CITES as the project does not involve international trade in specimens of wild animals or plants.

Approved recovery plans and conservation advices

At the time the preliminary report was prepared, approved recovery plans under the EPBC Act for threatened species assessed to be likely to be significantly impacted included:

- White-box Grassy Woodland;
- Regent Honeyeater;
- Swift Parrot; and
- Large-eared Pied Bat.

These were considered in detail in Section 6.4 and Appendix L of the preliminary report. Subsequently a recovery plan for the Spotted Tailed Quoll was approved by the Commonwealth Minister. This additional plan is considered below.

At the time the preliminary report was prepared, an approved conservation advice under the EPBC Act for threatened species assessed to be likely to be significantly impacted was provided only for the Regent Honeyeater. This is considered in detail in Section 6.4 of the preliminary report. Subsequently conservation advices for the Swift Parrot and the South-eastern Long-eared Bat were approved by the Commonwealth Minister. These are also considered below.

Anglo has considered relevant recovery plans and approved conservation advice in additional information provided to the Department and documented in Appendix L of the preliminary report. However, Anglo did not consider the recently-approved conservation advice for the Swift Parrot or South-eastern Long-eared Bat and recovery plan for the Spotted Tail Quoll.

Anglo did consider DoE's draft conservation advice for the *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* CEEC (White-box Grassy Woodland). While noting that this is not an approved conservation advice under the EPBC Act, the Department has considered Anglo's review of this advice to further inform its assessment of impacts on White-box Grassy Woodland.

National Recovery Plan for the Spotted-tailed Quoll

The objective for recovery of the Spotted-tailed Quoll is to reduce the impact of threatening processes throughout the species' range and subsequently halt the current decline in its distribution and abundance. Increasing knowledge of the distribution and status of populations, the impact and management of threatening processes, and investigation of key biological and ecological attributes is also required to facilitate recovery.

The recovery actions in the approved recovery plan are:

- *Determine the distribution and status of Spotted-tailed Quoll populations throughout the range, and identify key threats and implement threat abatement management practices.*
- *Investigate key aspects of the ecology of the Spotted-tailed Quoll to aid recovery, including evaluating and managing the risk posed by silvicultural practices.*
- *Reduce the rate of habitat loss and fragmentation on private land.*
- *Determine and manage the threat posed by introduced species (foxes, cats, wild dogs and cane toads) and of predator control practices on Spotted-tailed Quoll populations.*
- *Determine and manage the impact of fire regimes on Spotted-tailed Quoll populations.*
- *Reduce deliberate killings and frequency of road mortality of Spotted-tailed Quolls.*
- *Determine the likely impact of climate change on Spotted-tailed Quoll populations.*
- *Increase community awareness and contribution to the Recovery Program.*

The project would involve clearing foraging and dispersal habitat for the Spotted Tail Quoll. However, the proposed management and offsetting strategies would lead to other areas of quoll habitat being preserved and managed. Based on the extent of suitable habitat for this species in the offset package, the proposed mitigation measures and the requirements of the recommended management plan, and recommended conditions of consent, the Department does not consider the project to be inconsistent with the recovery actions in the *National Recovery Plan for the Spotted-tailed Quoll*.

Approved Conservation Advice for the Swift Parrot

The conservation advice for this species has identified the following known threats:

- *Predation by Sugar Gliders:* Until recently the main threat to Swift Parrots was thought to be habitat loss and alteration within breeding and drought refuge habitats, however predation on nests by *Sugar Gliders* poses a significant threat during the breeding season (ie in Tasmania) because gliders take the young, eggs and often kill the sitting female.
- *Habitat loss and alteration:* Land clearing for plantation development and native forest silviculture has dramatically reduced landscape cover of nesting and foraging habitat for Swift Parrot.

- *Wildfire*: Wildfires can impact swift parrot habitat by altering tree flowering phenology and tree cavity availability.
- *Collision mortality*: Collisions with wire netting, mesh fences, windows and cars cause mortality to swift parrots, particularly in urban areas, throughout their range.
- *Competition*: Swift Parrots can experience increased competition for resources from larger, aggressive honeyeaters, introduced bird species and bees, especially within altered habitats.
- *Psittacine Beak and Feather Disease (PBFD)*: PBFD is a widespread, lethal parrot disease, which is known to occur in Swift Parrot.
- *Illegal wildlife capture and trade*: Swift parrots are valued internationally and domestically by bird keepers and breeders and are vulnerable to illegal trade. The extent of such activities and their impact on the swift parrot population is currently unknown.

The project would involve clearing foraging and dispersal habitat for the Swift Parrot within a modified landscape. The removal of woodland habitat is likely to increase competition for resources in the vicinity of the project. However, as part of the proposed management and offsetting strategies, areas of Swift Parrot habitat would be preserved and managed to promote biodiversity conservation. This is consistent with the actions identified in the conservation advice. The project is not considered likely to increase the risk to Swift Parrot from other identified threats.

Approved Conservation Advice for the South-eastern Long-eared Bat

The conservation advice for this species has identified the following known threats:

- *Habitat loss and fragmentation*: Extensive clearing of woodland and mallee vegetation is likely to have been a major factor in the decline of the South-eastern Long-eared Bat.
- *Fire*: Bushfires are suspected to be a threat in the remaining uncleared areas of the South-eastern Long-eared Bat's habitat.
- *Reduction in hollow availability*: The availability of suitable roosting habitats is essential for the conservation of the South-eastern Long-eared Bat. This species mainly roosts in tree hollows and so a reduction in hollow availability would likely put pressure on the species.
- *Exposure to agrichemicals*: As an insectivorous species which occurs within habitat located in or adjacent to agricultural areas, this species may be susceptible to exposure from insecticides.
- *Grazing*: Grazing in habitat areas for the South-eastern Long-eared Bat is a suspected threat, particularly in relation to impacts on the composition of understorey habitat.
- *Predation by feral animals*: There is some uncertainty about the impacts of predation on the South-eastern Long-eared Bat by introduced species, such as feral cats or red foxes, and as such, the risks of predation to the species are unknown.

The project would involve the clearing of foraging and dispersal habitat for the South-eastern Long-eared Bat within a modified landscape. The removal of this woodland habitat is likely to increase competition for resources in the vicinity of the project. However, as part of the proposed management and offsetting strategies, areas of South-eastern Long-eared Bat habitat would be preserved and managed to promote biodiversity conservation. This is consistent with the actions identified in the conservation advice. The proposed project is not considered likely to increase the risk to this species from other identified threats.

Threat abatement plans (TAPs)

The threat abatement plans relevant to this action are discussed at Section 6.4 and Appendix L of the preliminary report and are available at <http://www.environment.gov.au/biodiversity/threatened/threat-abatement-plans/approved>. The advice received from OEH in relation to the relevant threat abatement plans is consistent with the discussion provided in the Department's preliminary report.

D.7 Additional EPBC Act considerations

The additional EPBC Act considerations, including mandatory consideration of the principles of ecologically sustainable development and socio-economic impacts are discussed in Sections 6.2, 6.4, 6.9, and 8, and Appendices B and L of the preliminary report.

D.8 Conclusions on controlling provisions

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

Together, the EIS and advice from the DoE identifies that, in the absence of appropriate mitigation measures, the project would have the potential to result in significant impacts to White-box Grassy Woodland, Regent Honeyeater, Swift Parrot, Spotted-tail Quoll, Greater Long-eared Bat and the Large-eared Pied Bat. To address and manage these potential impacts, Anglo has proposed a range of avoidance, mitigation and offsetting measures in its EIS and Response to Submissions.

For the reasons set out in Section 6.4 and Appendix L of the preliminary report and further discussed in this Appendix, the Department considers that the impacts of the action on threatened species and communities are acceptable, subject to the implementation of the avoidance and mitigation measures described in Anglo's EIS, establishment of the proposed offsetting strategy and the requirements of the recommended conditions of consent at **Appendix E**.

The Department has recommended conditions relating to Anglo's obligation to minimise harm to the environment (condition 1 of Schedule 2) and to address potential impacts on biodiversity and threatened species (conditions 26, 27, 28 and 29 of Schedule 3). These requirements include the implementation of measures to implement the Biodiversity Offset Strategy (including to provide long term security) and ensure that this strategy and the project's rehabilitation strategy focus on the enhancement and/or re-establishment of threatened ecological communities, threatened flora species and habitat for threatened flora and fauna species. The conditions also require Anglo to salvage, transplant and/or propagate threatened flora and native grassland; avoid and mitigate the spread of *Phytophthora cinnamomi*; and control weeds and feral pests, including but not limited to goats, rabbits, European red fox, cats and pigs.

Accordingly, the Department recommends that the Commonwealth Minister require Anglo to implement condition 1 of Schedule 2 and conditions 26 - 29 of Schedule 3, where they relate to the management of potential impacts on listed threatened species and communities under the EPBC Act.

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 6.5 of the preliminary report, the Department concludes that the impacts of the action on a water resource are acceptable, subject to the avoidance and mitigation measures described in Anglo's EIS, RTS and response to the IESC review, and the requirements of the recommended conditions of consent.

The applicable conditions of consent include an obligation to minimise harm to the environment (condition 1 of Schedule 2), to ensure operations are adjusted to meet the available water supply (condition 20 of Schedule 3), that Anglo has adequate water access licences in place (condition 21 of Schedule 3), that a compensatory water supply is provided to any landowner of privately-owned land whose water supply is adversely and directly impacted (condition 22 of Schedule 3), specific water management performance measures (condition 24 of Schedule 3) and a requirement for the development and implementation of a detailed Water Management Plan (condition 25 of Schedule 3). Notably, the water management performance measures include requirements for negligible environmental consequences to the Hunter River and Saddlers Creek alluvial aquifer beyond those predicted in the EIS, including negligible changes in groundwater levels and quality, and negligible impacts to other groundwater users. The performance measures also include a number of measures aimed at protecting the Hunter River and Saddlers Creek surface water resources.

Accordingly, the Department recommends that the Commonwealth Minister require Anglo to implement condition 1 of Schedule 2 and conditions 20 - 25 of Schedule 3, where they relate to the management of potential impacts on water resources under the EPBC Act.

D.9 Other protected matters:

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