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**Submission sent by email to The NSW Department of Planning, Belinda Parker:
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Submission from the Hunter Bird Observers Club Inc. re Warkworth Extension Proposal MP 09-0202

Central to our submission is the position that land clearing and woodland habitat destruction in the central Hunter Valley can no longer be justified. The following two quotes summarise the situation succinctly.

“Land clearing remains the single greatest threat to terrestrial biodiversity in Australia” according to the Australian State of the Environment Committee 2001. It impacts on ecosystems by killing biota and removing habitat, it fragments populations and undermines their long-term viability, and will reduce the resilience of ecosystems to forthcoming climate change (Gibbons & Lindenmayer p.26).

“But the single most important action is to avoid further losses of habitat, not just from large-scale clearing and degradation – which continues in some parts of Australia – but from the incremental losses of small remnants, wetlands and natural habitat components that add up to a significant impact on our birds.” (SOAB 2009 p.26)

The proposals put forward in the Warkworth Extension Environmental Assessment (WE EA) may appear to be an impressive package providing a sustainable answer to the habitat destruction that will occur if the proposed extension is granted. In considering the various elements of the proposal, each individual item may have attractive attributes. However, taking a step back and comparing the existing environment and its avian population on and adjacent to the mine site with future projections of the situation provided by the WE EA package, it is obvious that what we are being offered has little resemblance to the present situation. We have no confidence, definitely, no certainty, that our avian bird populations, threatened species and their habitats will be protected without net loss.

On this basis, HBOC believes that the Warkworth Extension application should be rejected.

The following points underpin the above statements:

1. Woodland bird species are in serious decline in NSW and the Hunter Region which is reflected in recent increases in the list of Threatened birds and the severity of the threat for some species. Habitat destruction and disruption caused by the Warkworth Extension (WE) will exacerbate this decline.

2. The WE EA proposes that avian species will progressively migrate to new areas put aside as environmental offsets. This argument is flawed because if existing habitat were suitable, it would already have a population of similar species.

3. The cumulative impact of land clearing must be taken into account. The WE proposal reduces the extent of continuous core habitat essential to the threatened woodland bird species of the central Hunter Valley

4. Much of the proposed offset habitat is over 100 km distant from the area to be cleared. The lack of suitable avian core habitat in the vicinity of the WE is not compensated for by offsets 100 km away and it is ridiculous to suggest that displaced species will benefit from its reservation.

5. The proposed offset habitat is highly fragmented and while some may provide important woodland connectivity, but it is of little value as core habitat. Fragmentation and the resulting edge effects ultimately lead to the local extinction of bird species.

6. The Goulburn River Biodiversity Area offset is significantly different bird habitat to that at the WE site and cannot be expected to sustain the same suite of species that exists at the WE. The claim that it is 'like for like' is dishonest.

7. Arguments that new and superior habitat will be created are flawed because new habitat is inevitably different from existing habitat. Revegetation must be both established and demonstrated to be viable before the existing habitat is cleared.

8. The assumption that revegetation or simple exchange of patches of land primarily intended for purposes other than protecting biodiversity is beneficial is not necessarily true.

9. The provisions for habitat in the proposal are limited to the 21 year extension of mine life; they should be maintained in perpetuity.

10. The WE proposal is an example of a Green Offset Package being crafted to suit the needs of the coal mining industry. If accepted, it casts serious doubt on the value and adequacy of the conditions of consent agreed by the regulatory authorities and their commitment to the protection of birds and their habitat. This is particularly true when the result involves a reduction in biodiversity values.

11. Previous Conditions of Consent at Warkworth relating to the fauna and flora of the central Hunter Valley have not been implemented

12. The Goulburn River Biodiversity Area has not been purchased

13. The land west of Wallaby Scrub Road comprises large tracts of continuous forest all of which are Endangered Ecological Communities. The large size and continuity make it an important core refuge and it should be set aside in perpetuity for the conservation of declining, threatened woodland species.

14. The difficulties and cost penalties associated with alternative extraction options which have lower environmental impact are inadequately explained and may have been conveniently rejected.

Detailed comment on each of the above points follows:

1. Woodland bird species are in serious decline in NSW and the Hunter Region which is reflected in recent increases in the list of Threatened birds and the severity of the threat for some species. Habitat destruction and disruption caused by the Warkworth Extension (WE) will exacerbate this decline.

The WE EA lists 146 species for the development site of which only 16 are water birds. The remaining 130 are woodland species. Thirteen of these species are listed under the NSW Threatened Species Conservation Act:

Little Eagle *Hieraaetus morphnoides*
Spotted Harrier *Circus assimilis*

Glossy Black-Cockatoo *Calyptorhynchus lathami*
Swift Parrot *Lathamus discolor*
Little Lorikeet *Glossopsitta pusilla*
Brown Treecreeper *Climacteris picumnus*
Speckled Warbler *Chthonicola sagittata*
Regent Honeyeater *Anthochaera phrygia*
Grey-crowned Babbler *Pomatostomus temporalis*
Varied Sittella *Daphoenositta chrysoptera*
Scarlet Robin *Petroica boodang*
Hooded Robin *Melanodryas cucullata*
Diamond Firetail *Stagonopleura guttata*

It is highly likely that an additional two Threatened Species of honeyeater would have at some time have been present on site – the Painted Honeyeater *Grantiella picta* and the Black-chinned Honeyeater *Meliphreptus gularis* (WE EA).

Two of the species are also listed under the Environment Protection and Conservation Biodiversity Act – Regent Honeyeater and Swift Parrot.

The NSW Scientific Committee has recently made a Preliminary Determination to support a proposal to list the Regent Honeyeater as a Critically Endangered Species, one of the reasons being that only an estimated 250 mature individuals may be left which indicates that **the species is facing an extremely high risk of extinction in New South Wales in the immediate future** (NSW Scientific Committee Determination). NSW and in particular the Hunter Region are key areas for this species.

The fact that the NSW Scientific Committee is continually adding new woodland species to the threatened species list reflects their concern with the decline of woodland birds based on hard scientific fact. The NSW Scientific Committee places considerable emphasis in its deliberations on information generated by Birds Australia's (BA) atlas projects. The Hunter Bird Observers Club Inc. (HBOC) is a significant contributor to these projects and is currently involved in the analysis of the BA atlas database for the 12 year period 1998 – 2009. The results demonstrate a wide-spread decline in woodland species in the Hunter Region particularly during the current decade. The cumulative impact of habitat destruction is considered to be the major cause of long term declines. Consequently, the destruction caused by developments like the proposed WE will inevitably contribute and accelerate the extent of decline and, it is anticipated, will result in listing of additional species. On this basis, it is essential that proactive measures are taken to halt further decline by preventing additional habitat loss as will occur if the WE EA is accepted.

2. The WE EA proposes that avian species will progressively migrate to new areas put aside as environmental offsets. This argument is flawed because if existing habitat were suitable, it would already have a population of similar species.

The WE EA offers three offsets and the progressive rehabilitation of the mine site area in compensation for bird habitat lost during mine development. If these areas were suitable for the displaced species, which we dispute, (point 6) they would already be populated by the types of species displaced from the WE site. It is our contention that setting aside these areas do not in any way prevent an overall loss of specialized bird habitat or a loss of the displaced birds. Basically, in most cases, the displaced birds have nowhere suitable to fly to and they will die. "For every 100ha of southern woodland cleared an estimated 1000-2000 birds die" (SOAB 2005 p.2).

3. The cumulative impact of land clearing must be taken into account. The WE proposal reduces the extent of continuous core habitat essential to the threatened woodland bird species of the central Hunter Valley

Coal mining is the second most extensive use of land after agriculture in the central Hunter Valley. The WE proposal is one of many coal mining developments both past and present which have all contributed to habitat fragmentation and the loss of avian diversity in the central Hunter Valley. The Warkworth Mine on the eastern side of Wallaby Scrub Road alone covers an area of 4,200ha the major proportion of which was previously woodland (Peake map, p.82). The site now has zero flora and fauna value. The Warkworth

Mine is surrounded by other mining operations: Wambo, Hunter Valley Operations, Mt Thorley, Bulga, which in turn have eliminated thousands of hectares of woodland.

76% of woodland and forest from the Hunter Valley floor have been cleared leaving only 19% of fragmented remnant vegetation. A mere 0.8% of this remnant vegetation is in protected ownership - national parks, which are situated on poorer soils and have lower bird abundance and diversity (Peake p.v).

The cumulative impact of land clearing in the central Hunter Valley must be taken into account and a decision on the WE should not be made independently of these facts.

4. Much of the proposed offset habitat is over 100 km distant from the area to be cleared The lack of suitable avian core habitat in the vicinity of the WE is not compensated for by offsets 100 km away and it is ridiculous to suggest that displaced species will benefit from its reservation.

Even if the birds knew this area existed, perusal of the maps show that there is no continuity of lowland woodland between the main offset area, the Goulburn River Biodiversity Area (GRBA), and the WE site. Consequently, the existence of this habitat will make minimal, if any, contribution to the survival of birds displaced by the clearing of vegetation on the WE.

The GRBA is 1562 ha of previously farmed agricultural land surrounded by escarpments and high country, which is 100 km from the WE where habitat will be cleared. As indicated below this area has been chosen because it does not involve coal reserves. Other land infinitely more suitable for offsets has not been considered because of the existence of coal under the ground as indicated by the proponent's statement below:

“The proponent has undertaken an exhaustive process in an attempt to gain access to and offer forward an offsets package that was considered appropriate to offset the proposed WE. Initially all available land that was outside known coal reserves and owned by any one of different partners involved in the proposed WE was examined for its suitability as an offset. At the conclusion of this examination it was concluded that the offsets package did not provide enough forest and woodland habitat.” (WE EA Vol 2. p D.23)

HBOC's position is that the existence of economic coal reserves does not automatically justify the destruction of habitat critical to Threatened Species, particularly when critically endangered species are involved and the offset provisions are totally inadequate.

5. The proposed offset habitat is highly fragmented and while some may provide important woodland connectivity but it is of little value as core habitat. Fragmentation and the resulting edge effects ultimately lead to the local extinction of bird species.

It is a basic premise of Island Biogeography Theory (MacArthur and Wilson 1967) that the avian diversity of an island, be it a land mass or isolated woodland, is proportional to the size of that island and inversely proportional to its isolation from other land masses or similar woodland. The application of this theory leads to several conclusions (Brooke and Birkhead 1991) which are relevant to the WE EA:

- a. Reserves should be as large as possible (to reduce species extinctions) i.e. point 3 above.
- b. A single large reserve is better than several small ones of the same total area i.e. fragmentation should be avoided
- c. Reserves should be as close together as possible (to increase colonization rates) i.e. point 4 above.
- d. Reserves should be as circular as possible (to maximise the amount of interior habitat) i.e. edge effects are detrimental.

The proposed WE EA is a package of isolated, fragmented and degraded habitat. The proposal seeks to exchange/replace 1212.2 ha of woodland and native grass with 2262 ha of offsets. While at face value this might be taken as a reasonable proposition, closer inspection of the maps in the EA shows that the replacement habitat is not continuous, but consists of a number of fragments sometimes isolated by large distances. Thus the package proposed in the WE EA diminishes the value of the existing core habitat for threatened woodland species simply by reducing the size of the existing woodland island and replacing it

with environmentally compromised fragments. Even if the replacement habitat was ideal for the displaced species, in the long term, the principles of island biogeography imply that there will be an inevitable loss of avian diversity and of biodiversity in general.

For instance, the Southern Biodiversity Area (SBA) is in fact three areas; the northern section is divided by a major road, the Golden Highway; the southern section is a narrow strip adjacent to Wollombi Brook and separated from the northern sections.

The south-western section of the Northern Biodiversity Area (NBA) is divided by a road and is seven kilometres from the WE site.

The GRBA is in fact an assortment of about six fragmented areas loosely joined by a river and the area has high perimeter:edge ratios.

Fragmentation creates long perimeters and will promote negative edge effects decreasing resilience to predators, dieback, weed infestation, fire and drought, climate change and increasing the very real threat of local species extinction.

“Larger remnants generally suffer less from edge effects as there is more likely to be habitat unaffected by edge effects, while smaller remnants or those with high perimeter:edge ratios may be entirely affected by edge effects.” (Peake p.56).

“It is now well understood that edge effects are detrimental to a wide range of native flora and fauna”. Peake (p. 56).

6. The Goulburn River Biodiversity Area offset is significantly different bird habitat to that at the WE site and cannot be expected to sustain the same suite of species that exists at the WE. The claim that it is ‘like for like’ is dishonest.

The habitat at the WE site is primarily lowland woodland, elevation 100- 145m, dominated by Central Hunter Grey- Box assemblages whereas the GRBA, elevation 285 – 350m, is predominantly cleared river flats historically used for grazing. Other areas are escarpments and vegetated ridges with a different assemblage of woodland species. The WE EA indicates that only three threatened species have been reported on this land, which is not surprising because of its highly fragmented nature and the impact perimeter edge effect as discussed above. It has not been proven that this area is capable of supporting the bird species present at the WE site. Threatened Species are scarce because their very specialized habitat requirements are absent.

7. Arguments that new and superior habitat will be created are flawed because new habitat is inevitably different from existing habitat. Revegetation must be both established and demonstrated to be viable before the existing habitat is cleared.

Creating new and superior habitat will not commence before the WE is approved and thus will not have had sufficient time to mature before mining commences. The NBA has been chosen for the restoration of Warkworth Sands Woodland. Methodology for attempting re-establishment, in essence the creation, of Warkworth Sands Woodland, is still only at the research stage, with no guarantee of being successful in practice. Vol 2 p. 690 “it is expected that the NBA should start showing signs of developing into the Warworth Sands Woodland Community within 10 – 15 years, this will occur shortly after the staged clearing of this community is expected to be at its greatest. “

The restoration of the current mining site will not replace existing habitat. It provides for the establishment of woodland 780.6ha. “The equivalency of an action on one site to compensate for losses on another is further undermined by the time lag between losses and gains. There can be a considerable period between the establishment of an offset and it performing a function equivalent to that lost from clearing. (Morris et al. 2006; Cunningham et al. in press). This results in a break in the continuity of the resource. For some features (e.g. hollow-bearing trees) this can be a considerable time frame (>120 years) (Gibbons & Lindenmayer 2002) having potentially major consequences for some biota (Manning et al. 2004)” (Gibbons and Lindenmayer 2007 p. 26).).

Glossy Black-Cockatoos require nesting sites in large hollows high in mature trees.

“All Glossy Black-Cockatoo records were from the Warkworth Sands Woodland community indicating that this species has a strong association with this community within the study area. It is likely that the Warkworth Sands Woodland provides optimal conditions for the growth of productive Black She-oak (*Allocasuarina littoralis*) that provide food for the Glossy Black-Cockatoo.” (Warkworth EA Vol 2. p. 3.42).

The time between planting woodland and its emergence as habitat providing food resources and nesting sites for a species like the Glossy Black-Cockatoo will greatly exceed the time frame of the WE proposal (i.e. >120 years compared with 21 years in the case of the Glossy Black-Cockatoo).

8. The assumption that revegetation or simple exchange of patches of land primarily intended for purposes other than protecting biodiversity is beneficial, is not necessarily true.

The restoration of the current mining site will not replace existing woodland habitat. The proposal states: it is designed to “support agricultural land predominantly for cattle grazing and biodiversity value providing native habitat.”(WE EA p.84) The planting of 218ha of trees on grassland and 1312.7ha of grassland will not provide habitat for specialized threatened species requiring continuous woodland habitat and mature trees.

“Much of the revegetation will occur for reasons other than enhancing or protecting biodiversity, e.g. shelter for stock, combating salinity or reducing erosion – but there is a widespread assumption that these plantings will also carry benefits for biodiversity. This is not always true. Planting for biodiversity requires heterogeneity of structure and of the species planted. These requirements for heterogeneity apply from the smallest patch to the scale of landscapes.” (State of Australia’s Birds 2009 p.3 ((SOAB)).

“The common motto is ‘plant trees and the birds will come’ which is not always the case. Plantings that do not have biodiversity conservation as their core purpose are often monocultures of same age trees which can have minimal benefits for birds and other wildlife.” (SOAB 2009, p.5)

In addition, the SBA is not being solely set aside for the conservation of biodiversity. The majority of the site doubles as the site for the Wollembi Brook Cultural Heritage Conservation Area. Among the management strategies for this area are: “establish areas for use by Aboriginal people for cultural and community purposes” and “establish areas for active cultural heritage”.

9. The provisions for habitat in the proposal are limited to the 21 year extension of mine life; they should be maintained in perpetuity.

The WE EA and the Biodiversity Management Plan make it abundantly clear that the Biodiversity Areas will be set aside for conservation and management **for the life of the project**. This is contrary to the wishes of the Department of Planning which advises that the offsets should be managed for biodiversity **in perpetuity**. (WE EA Vol. 1 p. 138)

HBOC agrees that offset provisions must be made and maintained **in perpetuity, defined as for ever**, to be successful. Our position is supported by Gibbons p.30: “Offsets must provide the intended resources for a period commensurate with impacts from clearing, which should be in perpetuity. Thus, offsets must be secured over time frames that can span changes in land ownership and tenure.”

HBOC suggests that Warkworth’s commitment to keep and maintain biodiversity offsets for a period as short as 21 years reveals a total lack of obligation to responsible environmental custodianship. Their position as stated in the WE EA is consistent with their past record of entering into offset arrangements which are conveniently negated at the end of the current development stage (i.e. the current WE proposal involves the destruction of habitat previously committed as an environmental offset for their current mining phase as discussed further in the next point). The stated restriction of 21 years in the current WE proposal can be interpreted as foreshadowing either an intent or an option to request a further expansion

involving the destruction of offset habitat. This demonstrates that the proponent has a blatantly insincere attitude to environmental protection. Land clearing should not proceed until the offsets are mature and function in a way which provides the environmental values lost by clearing.

10. The WE proposal is an example of a Green Offset Package being crafted to suit the needs of the coal mining industry. If accepted, it casts serious doubt on the value and adequacy of the Conditions of Consent agreed by the regulatory authorities and their commitment to the protection of birds and their habitat. This is particularly true when the result involves a reduction in biodiversity values.

The justification for the WE is the increase in the price of coal due to new global energy market demands. In 2003 it was considered that the coal under the threatened woodland and under Wallaby Scrub Road was uneconomic to mine.

The Warkworth Mine DA 300-9-2002-i. Green Offset Package set aside a Non Disturbance Area adjacent to the mine site which was to be permanently protected for conservation and from which open cut mining was to be excluded through a Ministerial Deed of Agreement. It is proposed in the new WE EA to mine the Non Disturbance Area.

The Northern Biodiversity Area is already an offset for the Hunter Valley Operations South Coal Project (HVO), but it is proposed to reallocate the Northern Biodiversity Area to Warkworth. Application has been made to modify the HVO South Project in which 140ha will be allocated in the Goulburn River Biodiversity Area over 100km away as an offset for HVO. Since the Northern Biodiversity Area is in fact 342ha in size the HVO South Project reallocation falls short by 202ha.

If agreed to environmental offsets are to be subject to the vagaries of global prices, then the legislation which protects the environment and its biodiversity is worthless in the state of NSW. What additional currently uneconomical reserves lie under land now being set aside as offsets which might become economic at a future date, e.g. the Southern Biodiversity Area, and thus be used for economic advantage.

If the continual renegotiation of previously agreed offset packages, as proposed by the WE EA, becomes customary practice it is an unsound approach to environmental protection. For instance if the provisions of the existing 2003 agreement are negated, seven years of opportunity to manage, improve and create new habitat, which is the essence of Warkworth's proposal have been lost. This is unacceptable because, as argued previously, long time frames are essential for replacement habitat to reach maturity. These attempts to reallocate and transfer biodiversity areas highlight the lack of any sincere concern on the part of the coal industry for the protection of species-rich habitat such as exists on the Warkworth site and Buffer Lands.

11. Previous Conditions of Consent at Warkworth relating to the fauna and flora of the central Hunter Valley have not been implemented

The 2003 Warkworth Development Consent in Schedule 4 – Specific Environmental Conditions – required the preparation and implementation of a detailed Flora & Fauna Management Plan. The Hunter Coalfield Fauna and Flora Advisory Committee was to be set up to advise on this Flora and Fauna Management Plan.

The Consent Conditions of another coal mine application, Wambo Coal DA 305-7-2003 also mentions this Hunter Coalfield Fauna and Flora Advisory Committee which was to be set up by the Director-General:

“(b) The Director-General shall form the Hunter Coalfield Flora & Fauna Advisory Committee to:

- provide on-going advice on the Flora and Fauna Management Plan; and
- monitor and review the performance of the implementation of the Remnant Woodland Enhancement Program.” (Wambo p.16)

It appears that this Hunter Coalfield Flora and Fauna Advisory Committee proposed in 2003 has still not been formed in 2010 (WE EA vol.1 p.67). This is a further example of the blatant disregard of existing

provisions set up to ensure effective environmental management of the Warkworth site and surrounds by both the proponent and the regulatory authorities.

12. The Goulburn River Biodiversity Area has not been purchased

Energy, time and cost have been invested in promoting the GRBA as an offset for which only an agreement to purchase exists. (WE EA vol. 1 p. 140) Given the ease with which offsets agreed to in documented Conditions of Consent are changed and exchanged, HBOC has no faith in statements made about the GRBA. Should this “agreement to acquire” not be realized, the statement that “WML will provide an alternative area of similar ecological value” lacks credibility in view of the proven absence of adjacent core habitat acceptable to WML, i.e. no coal reserves.

13. The land west of Wallaby Scrub Road comprises large tracts of continuous forest all of which are Endangered Ecological Communities. The large size and continuity make it an important core refuge and it should be set aside in perpetuity for the conservation of declining, threatened woodland species.

The land west of Wallaby Scrub Road which includes the Buffer Lands, approximately 1300ha, and 500ha of the Southern Biodiversity Area, is comprised largely of the Endangered Ecological Community, Central Hunter Grey Box-Ironbark Woodland, of which only 14,800ha remain which is 31.6% of its pre-clearing coverage (Peake p.171). The Buffer Lands are not part of the offset package and are designated Potential Future Development Zone (WE EA Vol 3. p.62). The WE EA Vol. 1 p. 139 states “In addition to the above offset areas, a vegetated area known as Buffer Lands, will remain in the area beyond mining disturbance and the Southern Biodiversity Area. The Buffer Lands will provide habitat to disturbed fauna species and ensure connectivity of vegetation and habitat to surrounding areas of forest and woodland. This area will undergo continuing management until further assessments are undertaken.”

HBOC argues that the offsetting in perpetuity of the Buffer Lands together with the SBA would provide core habitat for all Threatened Species. In view of the critically depleted state of woodland vegetation in the central Hunter Valley and the consequential decline in avian diversity, coal reserves should be sacrificed for the sake of remnant vegetation and its fauna and flora. There is no shortage of coal reserves in Australia and exploitation should be prioritised in areas which are less environmentally sensitive.

14. The difficulties and cost penalties associated with alternative extraction options which have lower environmental impact are inadequately explained and may have been conveniently rejected.

Underground mining is an extraction method which has a lower environmental impact than open cut mining. This option is dismissed on the basis that it will allow extraction of only 19% of the resources available by open cut mining. The reason for the discrepancy in recovery between the two approaches is not explained. Has the comparison been made on the basis that coal cannot be recovered if the cost of extraction exceeds that for open cut mining? If so, we would argue that a higher cost of extraction may be justified by the environmental benefits. HBOC’s position is that the underground extraction option has been conveniently excluded without a transparent analysis of the cost and recovery implications associated with this environmentally superior option.

The detailed discussion of the above points substantiates our position that land clearing and woodland habitat destruction in the central Hunter Valley can no longer be justified and on this basis HBOC objects to the granting of the Warkworth Extension Project.

Yours faithfully,

Ann Lindsey – convener of the HBOC conservation committee

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