The Wilderness Society Newcastle
90 Hunter Street
Newcastle, NSW 2300
26th April 2013

The proposed Watermark Coal Project will have significant impact on the ecology of the Liverpool Plains and both farming and urban communities. These impacts include:

1. Koala - The Australian Koala Foundation (AKF) disputes the number of koalas located in the local government area and feel there are a lot less than stated. AKF are opposed to the translocation of the koalas from the Shenhua area. *The proposed translocation programme does not meet the NPWS policy see 2.2*

2. Water - there is a risk of contaminated water being released from the sediment dam during rainfall events where it exceeds the capacity. With the unpredictable rainfall events this situation is considered most probable and the releasing of contaminated water across the black soil plains and into our ground water systems is unacceptable. It is stated in the proposal that:
- there is a potential for the reduction of catchment flows to surrounding waterways including the Mooki River, Watermark Gully, Native Dog Gully and Lake Goran with 25% loss at Watermark
- groundwater levels are predicted to largely recover rapidly
- a reduced rate of upward flow from the Permian to the alluvium is predicted
These predictions and forecasts by the Proponent are of great concern to our community.

3. Ecology - A total of 4,084 ha of vegetation will be removed progressively over the life of the project. This is a very large loss of vegetation and should not be allowed under any circumstances. *Inadequate survey methods used -see 1.3. Completely inappropriate to use mine rehabilitation areas as offsets -see end of 1.4*

4. Future Expansion – It is stated in the EIS that a final void will remain in the Western Mining Area and will cover an area of approx. 100 hectares. It will have a maximum depth of 80 metres below the natural ground surface. This is the outcome that is recommended by the mining company as it is the most cost effective method plus it allows opportunity for access to coal resources. This raises concerns for our community as we are not talking about a one off mine but an opportunity for future expansion with further risk to water resources, agricultural land and people's health.

5. Noise – the proposed mine is located near the village of Breeza in Northern NSW which is a quiet rural area. Infrasound/low frequency noise (ILFN) produced by machinery is known to be a problem in these types of areas due to the lack of background noise. ILFN is known to cause cardiovascular disorders, psychological problems and stress. It is of great concern to the community that Shenhua is not completing any assessment on low frequency noise as stated in the EIS "Acoustics Impact Assessment 4.6 Low Frequency Noise - no separate assessment of low frequency noise levels is required".

6. Heritage - The project will destroy significant Aboriginal heritage sites. The relocation of any significant object from its natural environment is not recommended due to the potential damage that can occur.

7. Increased Train Movement - All towns and properties along the rail line will be impacted by additional noise and dust from increased coal train movements.

The Wildlife Corridors will cut east-west and north-south local movements in the local area for Koalas and other bushland dependent species. There are serious implications for long term ability for fauna to disperse across the landscape.

If the Government approves this project, they are knowingly approving the detrimental impacts of this mine at the cost of the landholders and the community. Once the mine starts, you cannot stop or mitigate the impacts to the water resources, the system enters a new state and is changed.

1. Comments on EIS Main Report

1.1 Area of disturbance

864 ha of woodland (705 ha C/EEC; 51 ha other EEC) – 2,000 ha are within the project boundary however areas of indirect impact not defined or taken into account (ie. noise, light, dust noxious fumes). Despite close proximity of Breeza State Forest, it was not included in the study area and is highly likely to suffer indirect impacts. Breeza State Forest contains White Box Pine communities (Forest Type mapping) which are recognised as Koala habitat in the EIS. The current offset arrangement below:

	Disturbance	Offset	Rehabilitation
Box Gum woodland	665	1031	5000
Derived grassland	73	301	21
Grey Box	30	21	686

1.2 Grassland Assessment not verifiable

There are 76 ha of derived grassland (C/EEC). It was stated that 3,084 ha of low diversity grassland were found but does not state how was this determined. Only a very low sampling intensity of rapid data points and quadrats were undertaken within the large grassland area.

1.3 Flora and Fauna sampling inadequacy - insufficient effort and timing

It is clear that the surveying methods for flora and Fauna were insufficient and inadequate as they not meet the DEC (2004) guidelines and some surveying was undertaken in seasons when some species are not present so their presence could not be detected. The Squirrel Glider known to occur in this region was not recorded, most likely due to low survey effort. The Spotted-tail Quoll, with most likely habitat in Breeza State Forest was not checked. Low levels of bats were detected, most likely reflected by end of season surveys. Surveys within Offset areas were generally well below accepted survey guidelines and confined to autumn and winter surveys for birds and bats and Koala SAT surveys.

DEC (2004) guidelines state that this project required 900 trap nights for both large and small Elliott Traps and 360 small and 360 large hair tubes. However these guidelines were not met. No ground Elliott traps were laid, only ground hair tubes. Wire Cage traps were needed for 432 trap nights, yet only 96 were undertaken.

1.3.1 Flora

Flora quadrat surveys done between 8-11 November 2010; 29 November 2 December 2010; 13-15 December 2010; 2 May – 3 June 2011. Threatened flora surveys 19-23 December 2011. 48 quads in woodland are recommended under the guidelines according to the stratification used in the study, 61 undertaken. Random meanders not specified. The timing of these surveys was insufficient to detect:

- *Digitaria porrecta* (Flowers mid Jan-Feb)
- *Homopholis belsoni* (Flowers Feb-March)

1.3.2 Fauna
Fauna surveys were undertaken between 21-30 March 2011; 2 May – 14 May 2011 & 26-30 March 2012. This timing is insufficient to detect:

- Amphibians
- Reptiles
- Swift Parrot (requires winter surveys to detect)
- Regent Honeyeater (requires winter surveys to detect)

The Wildlife Corridors will cut east-west and north-south local movements in the local area for Koalas and other bushland dependent species. There are serious implications for long term ability for fauna to disperse across the landscape.

1.4 Offsets

The Offset Strategy Provides for 1,332 ha of White Box EEC which is an offset ratio of 1.5:1 but this includes derived grassland (Benchmarks show that Offsets should at least be at a ratio of 5-7:1). However a further 5,000 ha of "rehabilitation area" (grasslands or varying condition) is also counted for a total offset ratio of 7.3:1 for Box Gum Woodland.

Offsets do not offset biodiversity loss within a range of timeframes from medium term to indefinitely. The Assessment states that literature supports the notion that EEC can be created from paddocks. This not the case as stated in the Commonwealth Draft Recovery Plan of Box Gum CEEC (2010):

> "Research has shown that remnant vegetation provides habitat for a different array of species than replanted areas (Montague-Drake 2008) and replanting should only be considered as value adding to remnant vegetation, **not as a viable replacement.** Replanted areas rarely duplicate the total function of the natural ecological community and differing habitat values may include structural complexity, tree hollows, fallen timber, vegetative litter, groundlayer composition/cover and soil nutrient/moisture regimes. Many of the values of remnant vegetation will be absent from areas of replanting for long periods of time (e.g. tree hollows need 80-150 years to form).
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> "However, replanting of overstorey species will be necessary in many extensively cleared remnants to retain function. The reintroduction of understorey seed will be necessary to rehabilitate degraded remnants, as native seedbanks that are short-lived are exhausted and natural seed dispersal is no longer happening (Prober and Thiele 2005).
>
> "A "*Restoration Study*" undertaken by Lindenmayer in 2000 showed blocks of tree replanting within a mosaic of native grasslands, remnant woodland and paddock trees can provide important habitat for a range of fauna species (Montague-Drake 2008)."

The Recovery Plan outlines a number of strategies for recovery of Box Gum Woodland. The most important is to:

1. Improve baseline information
2. Greater Protection to halt ongoing clearing
3. Improve community Engagement

4. Continue Research into Ecosystem function and management.

The projects' proposal to conduct landscape wide upgrades of grassland to woodland is not recommended under the Recovery Plan nor is it stated as a viable proposition. The Recovery Plan does not state that grasslands can be converted into Tier 1 Native Grassy Woodlands and will then qualify as being the EEC. Strategy 4 of the Plan is designed to improve knowledge of how this EEC may be restored. Current knowledge is not adequate to undertake such large scale habitat restoration. Instead this strategy advocates:

- Research, primarily in central and southern NSW into various restoration strategies/methods to improve species diversity/cover, habitat values and regeneration within degraded remnants.
- Investigation into the impact of the high threat weed. Coolatai Grass on component flora and fauna species.
- Investigation into the use of birds and reptiles as indicators of Box-Gum Grassy Woodland condition.
- Development of various management guidelines to assist landholders in the assessment, management and monitoring of grasslands and grassy woodlands.
- The development of "*Possible Management Actions for Box Gum Woodlands*" (Oliver *et al.* 2008) to maintain or improve the quality of remnants for inclusion in the Property Vegetation Planning - Threatened Species Assessment Tool (NSW).

Vesk and McNally (2005) state that

> "Time-lags in vegetation maturation and senescence are identified as a major influence on the likely success of landscape reconstruction in dealing with probable widespread collapse of terrestrial biodiversity in the wheat-sheep belts of southern Australia."

Included in the offset strategy is a mine rehabilitation area. It is completely inappropriate to include pit rehabilitation into the offset equation as it is unable to achieve like-for-like offsets.

2. Comments on EIS Appendix L - Koala Plan of Management

2.1 Survey methods

Kola surveys show that the project area supports a significant population of Koalas and a significant area of Koala habitat which will be directly impacted (with the indirect impacts not assessed). Koala surveys were done according to SAT test guidelines (Phillips and Callaghan 2011) and the "Area search" (Phillips *et al.* submitted). To achieve population estimates, counts were conducted on living Koala within a 25 m radius of the central SAT test tree (0.2 ha) within "primary sampling grids".

Measuring density using such a small area can give misleading results either through under estimation or overestimation of population density. Previous work undertaken by DECC shows that Koalas in the Gunnedah LGA are at a population density of 0.07 animals /ha in preferred habitat with a total population size of 3,000. However, the density figure used in the assessment gives a density of 0.3 animals/ha or 13,000 in the LGA. These are two widely different results and brings into question the methodology used to make these estimates.

The quality of Koala habitat in Project Area is considered medium to high due high number of high use sites despite the fact that current classification of habitat is inadequate to deal with actual Koala tree preferences on the western slopes. The areas of 1,883 ha of preferred Koala habitat present in the Project Area and 847 ha of preferred habitat present in disturbance area does not count Breeza State Forest.

Watermark Shenua propose to relocate Koalas prior to clearing into a relocation zone "Offset A". However details surveys into the suitability of this area (or any area) for relocating has not been properly assessed (ie. the status of the local population has not been identified). Placing Koalas into areas where a population

already exists is likely to reduce the chances of these animals surviving. Using the density estimates provided in the assessment, there should already be 485 Koalas in Offset A.

2.2 Translocation programme

The translocation programme proposed in the Koala Plan of Management (KPoM) is not consistent with the NSW Policy and procedures statement No.9 Policy for the Translocation of threatened Fauna in NSW (NPWS October 2001)

2.2.1 In order to translocate Threatened Fauna, the reason for moving the animal needs to fall within one of the four policy scenarios listed below. Relocation for a mining development is clearly not one of these.

- Species recovery program
  "Species recovery translocation programs are a justifiable part of the recovery planning process currently being undertaken in NSW under the TSC Act. They are undertaken as part of a broader co-ordinated recovery strategy directed toward the recovery of the threatened species in the wild."

- Biodiversity reconstruction programs
  "Biodiversity reconstruction programs are area-based translocation programs that have been developed as part of a land management program. A biodiversity reconstruction program is likely to be a justifiable outcome of successful threat abatement and habitat management. Biodiversity reconstruction programs may involve several species and are aimed at re-establishing the species that historically occupied an area, thereby extending their current range. Biodiversity reconstruction programs are not necessarily a part of and should not compromise any species-specific recovery planning effort.

2.2.2 This translocating in not part of an Emergency transfer programs. The policy states:

"The purpose of emergency transfer programs is to remove threatened fauna from a demonstrably life-threatening situation in the wild. These programs are generally concerned with the welfare of individuals but may also address the conservation of the species as a whole. The care and release of fauna in these programs will be subject to the same animal welfare considerations as captive breeding strategies outlined in this policy and be guided by the NSW Wildlife Rehabilitation Policy.

"Situations where a case for emergency transfer may arise include where a remnant population is in serious decline and the threat cannot be adequately ameliorated. Emergency transfers, by their nature, require an immediate response that may not allow for a detailed translocation program to be developed. The NPWS will advise applicants regarding the preparation of translocation proposals and will expedite licence applications in such cases.

"The policy allows for the removal of individuals in an emergency situation and the holding of these individuals while a translocation proposal is prepared. Release of captive individuals to a new host environment will only be allowed when a TP is prepared and the necessary licences have been issued. This precautionary approach is necessary because the release of fauna may result in their death or injury or damage to the host environment. At the time of release, translocated individuals may be particularly vulnerable to predation, injury or stress in their new environment. Examples of damage to the host environment are overgrazing and consequent degradation of native vegetation by released herbivores and loss of native fauna to released predators. In some cases, an option may be to re-release fauna into the source environment following threat abatement or habitat rehabilitation."

2.2.3 The translocation is not part of a Research programs. The policy states:

"The NPWS will encourage proponents of TPs to include scientific research as part of translocation programs which are justified under the above programs. In addition, there may be species for which the factors causing local extinction are unknown but there is a case for re-introduction as part of a research program that aims to investigate these factors. These programs must demonstrate that they have a conservation benefit."

2.2.4 The proposal does not fit with the types of translocation supported by the policy.

- It is not “Introduction” – animals are in their known historic range
  “Introduction for the purpose of conservation is the release of an organism outside its historically known range but within an appropriate habitat and bio-climatic region. The introduction of a species may be potentially harmful to other species currently existing within the host environment. Introductions may also alter the evolutionary development of natural ecosystems. Introduction may be appropriate where the translocated species is to fill a niche role where such a role is crucial to the proper functioning or sustainability of the host environment or the introduction is the last resort to save a species from extinction and the potential benefits to the species outweigh any potential adverse impacts on the host environment. Introductions will be licensed only in cases where the conservation reasons are exceptionally strong.”

- It is not “Re-introduction” – animals are present in the re-introduction area
  “Re-introduction is the release of an organism into part of its historically known range from which it has become extinct. Re-introduction to establish new populations may be a very important precaution against the possible extinction of a species which is confined to a small number of isolated populations subject to continuing decline, ongoing threats or a restricted area of suitable habitat. Re-introduction may also be used for restoring a species to its historical range where it is unable or unlikely to disperse naturally and for biodiversity reconstruction programs.”

- It is not Supplementation (re-stocking) – as the animals in the offset area are not known to have declined.
  “Supplementation is the addition of individuals to an existing population of the same species. Supplementation may be useful where the natural recovery of a small population is so slow as to leave the population vulnerable, to counter the adverse effects of inbreeding or to maintain genetic exchange between small isolated populations.

2.2.5 The translocation is not consistent with the Translocation Policy which states that:

5.3 Translocation should not be used as a substitute for protection of high quality natural areas and conservation of wild populations *in situ*.
5.5 Translocation programs should be consistent with the principles of ecologically sustainable development.
5.6 Programs should use and contribute to the development of best practices for translocation of threatened fauna.
5.7 Each translocation program must be undertaken in accordance with a Translocation Proposal (TP) which has been prepared following the guidelines in the policy and is licensed by the NPWS.
5.11 Introductions will be licensed only in cases where the conservation reasons are exceptionally strong.
5.12 A TP will normally be proposing an action within a species recovery plan. TPs proposing a translocation not specified in a recovery plan must show that the translocation is part of an overall plan that will benefit the conservation of the threatened species concerned.
5.13 A draft or approved recovery plan may contain an action proposing a translocation program but a TP and all appropriate licences will be required prior to the commencement of the program.
5.14 The principles of conservation genetics relevant to effective population size, compatibility and hybridisation will be considered in the TP.
5.15 Translocations of threatened fauna should only be undertaken where: the removal of individuals is unlikely to pose an unjustifiable risk to the source population (except in the case of emergency transfers); the species being translocated is likely to have no unjustifiable adverse impact, including the spread of disease or parasites, upon the host environment; where the factors which caused the species extinction in the host environment have been identified and reversed and are unlikely to occur in the future (except in the case of research programs); other potential threats are unlikely to compromise the success of the translocation; and the host environment has suitable and sufficient habitat for the survival of the species.

Reference

Vesk, P.A. and McNally, R. (2006). The clock is ticking—Revegetation and habitat for birds and arboreal mammals in rural landscapes of southern Australia. *Agriculture, Ecosystems and Environment* 112 (2006) 356–366

Yours sincerely,

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