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Nature Conservation Saves for Tomorrow

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Referral Business Entry Point
EIA Policy Section (EPBC Act)
Approvals and Wildlife Division
Department of Sustainability, Environment, Water,
Population and Communities

By email: epbc.referrals@environment.gov.au

Stage 2 Pine Dale Coal Mine, within Ben Bullen State Forest Reference Number: 2012/6326

1. The referral's limitations

The Society agrees that the proposed action will impact matters of National Environmental Significance and should constitute a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999*. ***But the referral is disingenuously deficient.***

(a) The basis for referral by Enhance Place (Part 2 Section 5.3) comprises:

- The 'threatened species and communities' listed as matters of national environmental significance in Parts 1 and 2, Section 3.1.

(b) The additional bases which Enhance Place fails to identify are:

- The significant risk of discharging toxic waters into the headwaters of the Cocks River system, which flows into the Greater Blue Mountains World Heritage Area (GBMWhA) and thence into Sydney's principal water-supply dam. ***In Part 2 Section 5.3 the company should therefore have ticked World Heritage values.***
- The referral comprising a staged proposal in the context of the company's track record and totally contrary to Part 1 Section 2.7 which states: "*The proposed Pine Dale Coal Mine – Stage 2 Extension is considered to be a 'stand-alone' project viable in its own right. It is noted that the proposed Stage 2 Extension incorporates the area of the approved Yarraboldy (Stage 1) Extension, however, development of the Stage 1 (Yarraboldy Extension) is independent and viable in its own right and does not necessitate further development of the proposed Stage 2 Extension. The Yarraboldy (Stage 1) Extension has previously been referred and was determined to be a non-controlled action if undertaken in the manner set out in the decision.*" ***In Part 1 Section 1.12 the company should therefore have ticked 'yes'.***
- The staged proposal is a reality in this creeping attrition of Ben Bullen State Forest! It progressively involves destruction of the approved Stage 1 hectares, the 210 hectares of Stage 2, and the 300+ hectares of the 'under-the-table' Stage 3. This exponentially impacts on migratory species of birds and the habitat-dependent nationally endangered Purple Copper Butterfly. ***Such progressive destruction demands that 'listed migratory species' should have been ticked in Part 2 Section 5.3.***
- The staged proposal of which the referral is the second part, strongly suggests that alternatives to open cut extraction should be considered and implemented, irrespective of self-serving economic arguments and over-stated opinions about practicability. ***In Part 1 Section 1.9 the company should therefore have ticked 'yes'.***

(c) **Further issues of extreme concern to the Society and inadequately covered by the ‘tick-the-box’ approach are:**

- The referral disregards the destruction of internationally significant pagoda rock formations; this concern is exacerbated when placed in the context of the company’s ‘stage 3’ intentions. The destruction is recognised by the company in Part 2 Section 3.3(d) and then glibly covered in Part 1 Section 2.1 (p10) as follows: *“The aim...would be to create a final landform...similar to the existing landform including the...re-instatement of selected rocky outcrops.”* ***This is simply impracticable. Such misleading statements should not be accepted by SEWPAC.***
- It is both a tragedy and disgrace that pagodas are not currently listed as a ‘matter of national environmental significance’. There are vast tonnages of coal already available for export. The destruction of environmentally sensitive regions in order to maximise open-cut recovery, particularly where there has been previous underground mining, should be unacceptable. ***An emergency listing is warranted to preserve iconic pagodas and their biota from high-impact open-cut mining.***
- The simplistic approach to rehabilitation of open-cut mines seems to be perpetuated because Federal and State Governments are either poorly advised on the deficiencies of such proposals, or are expediently satisfied with a thin cosmetic disguise; the permanent hydrologic damage remains and the previously evolved ecosystems are never re-established. ***The current cavalier concept of rehabilitation is inconsistent with the long-advocated reservation of Ben Bullen State Forest as a State Conservation Area.***

2. General comment

Many aspects of this referral were addressed in BMCS’ submission to SEWPAC in relation to Stage 1 (Yarraboldy Extension) and dated 11 July, 2011. The document and its appendix are appended hereto (*Appendix I*) for your convenience and further consideration. ***The fact that the Yarraboldy (Stage 1) Extension was determined to be a non-controlled action if undertaken in the manner set out in the decision (Stage 2 Referral, Section 2.7) does not alter the validity of the issues previously raised.*** In effect, the small area involved in Stage 1 was a factor in the ‘test case’ being deemed ‘non-controlled’. The company insisted then, and continues to insist (Stage 2 Referral, Section 2.7), that Stage 1 is independent and viable in its own right and does not necessitate development of Stage 2.

The Society previously submitted that Stage 1 was misrepresented as an independent referral and should have been treated as ‘test case’ for what was to come. Stage 2 is now with us and Stage 3 is waiting in the wings! **Regrettably, the reductionist precedent established by State and Federal authorities in treating Stage 1 as a discrete application is now enabling the company to extend its tactic to Stage 2.** The curtain is effectively rising on what will arguably become (if sanctioned) the most destructive open-cut in the southern division of the Western Coalfield. As such, it will displace the Coalpac integration proposal (2010/5776) which has hitherto set the height of the bar for high-impact ridiculously destructive open-cut and highwall mining.

The referral aims to increase production from 350,000 tonnes per year up to 2 million tonnes per year. Such an increase inevitably escalates the environmental impacts as they are loosely a function of the area to be open cut. However, the mining also involves an intensification of destructive actions beyond the limits of local precedent. Hill-tops and pagodas will be removed to access the residual coal seams in an area previously mined by low-impact bord and pillar underground methods. The previous mining left much of the topography undisturbed such that habitat was preserved; the proposed mining will irreversibly destroy the topography and render the area a wasteland.

The bottom line here is that the vastly increased scale of Stage 2 over Stage 1 results in an exponential increase in the magnitude and significance of the proposal’s impacts.

3. Principal impacts

The principal mining-related impacts are associated with the:

- implications for the Coxs River system, the GBMWA and Sydney’s water-supply;
- disturbance and destruction of fauna, flora and ecosystems;
- capacity to damage pagoda landforms; and
- misconceptions about rehabilitation.

Each of these impacts will be considered, but BMCS only has access to the Stage 2 referral document, and reports and submissions linked to the approved Stage 1 application. These will be drawn upon in view of the two statements in blue bold italics in Section 2 above.

3.1 Coxs River, the GBMWA, and Sydney's water supply

(a) **Diminished quantities of clean run-off** [Further information is in *Appendix I* Section 2 and *Appendix A* Section 5.1]

Pine Dale's Stages 1 and 2 drain into the Coxs River via Neubecks Ck (NC). The latter enters the GBMWA and ultimately feeds Lake Burragorang (Sydney's water-supply dam). The proposed open cuts will compromise the catchments of streams feeding the NC-Coxs River system, and therefore reduce the quantity of surface flow entering the Upper Coxs system. This has two effects: it reduces the moderating influence on water quality that the rainfall run-off would have provided and thereby detracts from the downstream environmental health of flora and fauna; it also reduces the flow-volume to Lake Burragorang, and while this might seem to be minor, it is not too long ago that Sydney was subject to severe water restrictions.

(b) **The impact of contaminated discharge waters** [Further information is in *Appendix I* Section 2 and *Appendix A* Sections 5.1 and 5.2.]

The discharge of contaminated water to NC, and the use 'dirty' water and Old Wallerawang mine-water for operational purposes are cause for concern. The discharge waters will have a much higher salinity and heavy metal content than the natural flows along NC, thereby increasing the risks to ecosystems in the Upper Coxs River and further downstream in the GBMWA. There can be no doubt that the magnitude of these impacts [as raised for Stage 1 – see *Appendix I* Section 2)] will escalate exponentially as a function of the much larger Stage 2 referral. The company in fact provides no significant plans to treat the waters to appropriate standards whereby the discharges have a neutral or beneficial effect on receiving waters. *This is totally unacceptable and should be a fundamental requirement for any discharges to water courses flowing into the GBMWA.*

The referral document (Section 2) indicates the Old Wallerawang mine would undergo: "Dewatering, treatment (if required) and transfer to Delta Electricity and/or Neubecks Creek of runoff water and groundwater stored within the old Wallerawang Underground Workings and intercepted aquifers." It is extremely unlikely that this polluted water would be accepted in view of the successful outcomes from the Society's legal action against Delta.

The Society notes that the company's current EPL fails to stipulate levels for salinity or metals, and thereby fails to recognise the impact of such contaminants and pollutants on the GBMWA and Sydney's water supply dam, particularly as concerns were previously raised by Sydney Water Corporation. BMCS similarly notes that the development consent for Stage 1 assigns the formulation of surface water and groundwater action plans to the company. This is a continuation of government policy whereby the bars are set too low in an EPL and the 'fox is placed in charge of the hen house'. *Should Stage 2 ultimately be approved, the Society strongly believes that the policy-deficiencies should be rectified. It is incumbent upon the EPBC referrals unit to ensure that this is implemented within the context of its responsibility for the GBMWA.*

3.2 Fauna, flora and ecosystems

The referral document states (p16): "A number of field surveys within the Stage 2 Extension have been undertaken and will be incorporated into the Environmental Impact Statement (EIS)...the results of the survey were used to inform the significant assessments for these matters of NES...Field surveys conducted as part of the Yarraboldy (Stage 1) Extension Environmental Assessment will also be used to inform the Stage 2 EIS (currently being completed)".

Details of the surveys are given in Table 2 (pp16-18). It is abundantly clear that the majority of the work was done in 2009, 2010 and May-July 2011 in preparation for Stage 1, although Eco Logical Australia reported (2011) on ground-truthing vegetation communities within the Stage 1 and Stage 2; the only additional work specifically relating to Stage 2 would seem to be a flora survey in 2012 over 10 vegetation quadrats. This has two implications: (i) *what was previously said about Stage 1 also applies to Stage 2, but with greater uncertainty as a function of Stage 2/Stage 1 by area; and (ii) having received approval for Stage 1, the company believes that essentially the same data will work for Stage 2.* Let's hope the company has misjudged the level of gullibility!

(a) **Fauna of Stages 1 and 2** [Further information is in *Appendix I* Section 3.1 and *Appendix A* Section 4]

The referral pp18-20 lists 1 insect, 3 birds, 3 fish and 3 frogs, and on pp28-32 it lists 8 mammals, and 1 reptile; all are vulnerable and in some cases endangered. Of these, *only the Purple Copper Butterfly (PCB) is deemed to be at risk from the Stage 2 proposal, and is a basis for the proposal being a controlled action.* Nevertheless, the company still believes that mining should be allowed, other than in a small exclusion zone (Fig 3 p7), such that the species will experience indirect impacts while the PCBs are monitored. This is not acceptable for the reasons previously given [see the dot-points in *Appendix I Section 3.1*].

One of the bird species, the endangered Regent Honeyeater is ‘unlikely’ to be ‘significantly’ impacted due to the (p19) cleared area of Stage 2 being minimal compared to the large extent of forest and woodland in the region. A similarly dismissive argument is presented for the 2 species of mammal (Pied Bat and Flying Fox) known to occur in the Stage 2 area. *Such an argument was used for Stage 1, has now been extended to Stage 2, and will no doubt reappear with Stage 3! How much of the forest must be destroyed by mining before an impact becomes likely and significant?*

(b) Flora of Stages 1 and 2 [Further information is in *Appendix I Section 3.2* and *Appendix A Section 4*]

In relation to Stage 1, the Society contended that the EA demonstrates the range of species which would be impacted by the total removal of their habitat. Many of these species are listed as vulnerable and endangered under the respective State and Federal legislations, so it would be unconscionable to effectively scalp the region. *This equally applies to Stage 2.*

Thesium australe (vulnerable) occurs in the Stage 1 and Stage 2 areas. Exclusion zones are shown in the referral document (Fig 5 p23). However, the document states (p30): “A provisional exclusion area is proposed to avoid disturbance of the *Thesium australe* plants until a suitable translocation area or offset is established. Following the establishment of a suitable offset, it is proposed that the area of *Thesium australe* plants within the Stage 1 and Stage 2 Extension Areas will be cleared.” Also (p30): “It is considered likely that the actions from the proposal would result in a significant direct impact to the identified *Thesium australe* population. However, with the implementation of a suitable biodiversity management strategy (e.g. through translocation and/or use of offset), it is considered that there would not be a significant impact to the species in this location.” This doesn’t make sense; the impact must involve destruction. Still p30: “In the event that a suitable biodiversity management strategy is not implemented and the area of *Thesium australe* is excluded from disturbance, no impact is considered likely.”

Reading between the lines of the foregoing and somewhat confusing quotations, three things become apparent: (i) the company’s first choice is to destroy the plants in exchange for an ‘offset’ – SEWPAC should not permit this; (ii) the second choice is to relocate the plants, but the question is to where and how many would survive? This should be unacceptable to SEWPAC. And (iii), the third choice if SEWPAC is ‘difficult’ is to protect them with substantial and permanent exclusion zones. *Of course, the fourth choice is to protect the whole region by appropriate reservation!*

(c) Critically endangered ecosystems

BMCS notes that the botanical merits of the region (Stages 1 and 2) have been understated to the extent that Endangered and Vulnerable species have been missed [e.g. *Derwentia blakelyi* (V), dozens of *Eucalyptus cannonii* (V), and *Leionema lamprophyllum* ssp *orbiculare* (2R-P3)]; likewise an ecosystem comprising *Eucalyptus blakelyi* with grassy understorey (i.e. Critically Endangered Box Woodland) exists in the region yet was not identified. *It is regrettable that the nature of the surveys undertaken can lead to significant omissions.*

3.3 Pagoda landforms

Pagodas are a distinctive landform within the western Blue Mountains. The principal developments of pagodas are found peripheral to Newnes Plateau and within the Ben Bullen State Forest. They have substantial geoheritage, scenic and cultural values, as well as focusing distinctive ecosystems. The referral document [Section 3.3(d)] mentions pagodas: “...remnant Triassic sandstone outcrops also occur within the...area, generally on the edge of steep drop offs. The remnant outcrops, formed from weathering sandstone, outcrop up to approximately 3m to 15m high.” However, apart from an exclusion zone because of major cliffs in the NW portion of the Stage 2 area (Fig 3 p7), it would seem that the majority of the pagodas will be removed as overburden during open-cut mining.

In regions of Longwall mining elsewhere in the Western Coalfield, pagodas have been protected as part of the Subsidence Management Planning Process. Indeed, Baal Bone Colliery elected not to exploit portions of its northern leases to protect scenic values and Centennial Coal opted for bord and pillar mining in its Airly Colliery. Even the Coalpac Consolidation Project stops short of open-cutting the pagodas by opting for the highwall mining option!

The company suggests that as part of its rehabilitation program it will aim to re-create the pagoda landforms or, in their terms re-instate selected rocky outcrops [See Section 1(c) dot-point one]. However, this is in no way practicable. Pagodas must be protected and excluded from the depredations of open-cut mining.

3.4 Misconceptions about rehabilitation [Further information is in *Appendix I* Section 4.3]

The referral document (p10) states that: *“The aim...would be to create a final landform with features and general characteristics similar to the existing landform including the recreation of existing drainage lines and re-instatement of selected rocky outcrops.”* Also that: *“The...Stage 2 Extension Areas are located predominantly within the Ben Bullen State Forest. Therefore the principal aim of the final land use for the rehabilitated area would be for vegetation conservation and the use of NSW-Forests. Ongoing consultation would be undertaken with NSW-Forests and Mineral Resources and Energy Division of DTIRIS throughout the rehabilitation process to ensure that the rehabilitation meets their requirements.”*

This seems reasonable – at first! But it doesn’t withstand closer examination.

- Re-creating pagoda landforms is not a practicable proposition; any contrary suggestion is either extremely naïve or deliberately misleading.
- Rehabilitating the area to a level acceptable to Forests NSW and Mineral Resources must surely be a joke! Forests NSW has already indicated that the timber resources of the Ben Bullen State Forest are of poor quality and stated its preparedness to relinquish its custodianship – there is unlikely to be a strong commitment to rehabilitation. Similarly, Mineral Resources is more concerned with extracting a resource than with a protracted rehabilitation process. Yet the Office of Environment and Heritage, which should be concerned with a high standard of rehabilitation, is seemingly not involved!
- The Office of Environment and Heritage has affirmed its preference for Ben Bullen State Forest to be reserved as a State Conservation Area within the national park system. Open-cut mining, which destroys the natural physiography, the associated hydrologic regime, and the related ecosystems, is incompatible with such reservation. Even if rehabilitation processes are made (as far as is practicable) consistent with a conservation end-use rather than forestry, a rehabilitated 200-hectare open cut would have little environmental value.
- Again, even if rehabilitation were able to re-create the original landform and its biota, when will mining cease inflicting damage, and when will the rehabilitated surface and its flora reach a level of maturity capable of supporting the displaced ecosystems? The sad truth is that at least 200 hectares of State Forest will have been destroyed, an additional 20+ years would be needed before ‘rehabilitated vegetation’ could remotely approach the destroyed old growth, and the protracted absence of habitat would have ensured the loss of dependent flora and fauna.
- Even if the land surface is reproduced and drainage channels re-established, the result is far removed from what was there beforehand. Open cut mining destroys the physiography, the underpinning hydrologic regime, and the dependent ecosystems. At any site, interaction of rocks, soils, vegetation and climate has evolved over thousands of years. Mining strips the vegetation and soil horizons, thereby destroying the hydraulic conductivity between the soil and underlying weathered and then fresh rock. Mining then extracts the stratified rocks, which have a structure and different vertical and horizontal hydraulic conductances, and thereby disrupts the related watertable. The interaction between infiltration, run-off, surface flows, groundwater, soils and their rock substrate is part of a site-specific hydrologic regime. Rehabilitation can’t re-create this.

Rehabilitation involves placing fragmented rock-fill in a hole, sculpting it, covering it with soil and planting it. It never reproduces the original stratification, the original hydraulic properties, and the original hydrologic regime. Even if specific drainage lines are recreated, there is little likelihood of the stream’s base flow being recreated because the lack of underpinning stratification means that a different watertable will eventuate. Rehabilitation is purely cosmetic! It is akin to applying pancake make up to an older person; it covers the damage but will never restore what was once underneath!

4. In conclusion

Although the Society appreciates that the Yarraboldy Extension (Stage 1) was treated as a ‘stand-alone’ proposal, its approval was disappointing. The encouragement provided by the approval has led to the Stage 2 proposal. If SEWPAC and Planning and Infrastructure now sanction Stage 2, the additional encouragement will result in the envisaged Stage 3 proposal and excision of another 300 hectares of Ben Bullen State Forest. Furthermore, it will concurrently pave the way (or vice versa) for a spineless compromise deal over the Coalpac Consolidation Project.

The Society firmly believes that Pine Dale Stage 2 must be a controlled action. In following this process, SEWPAC should recognise the NSW Office of Environment and Heritage's wish to reserve Ben Bullen State Forest as a State Conservation Area (SCA). SEWPAC should therefore exercise this opportunity to protect the environment by ensuring that further excision of substantial portions of Ben Bullen State Forest for high-impact open-cut coal mining is not approved.

Finally, the Society again emphasises that this does NOT preclude low-impact underground mining which largely preserves the superficial environment and is compatible with SCA reservation.



*Dr Brian Marshall,
For the Management Committee*

6 April, 2012

Appendix I

Reference Number: 2011/6016: Enhance Place Pty Limited Stage 1 - Pine Dale Coal Mine (Yarraboldy Extension) Blackmans Flat, NSW

Summary statement

The Society submits that the proposed action will result in significant impacts to matters of National Environmental Significance and should therefore be assessed under the *Environment Protection and Biodiversity Conservation Act 1999*.

The principal matters requiring that it be deemed a controlled action are:

- The significant risk of reducing flow-volumes and contaminating the headwaters of the Coxs River system, which drains into the Greater Blue Mountains World Heritage Area (GBMWhA) and on into Sydney's principal water-supply dam.
- The impact on fauna nationally listed under the *EPBC Act* as endangered (three species) or vulnerable (4 species).
The impact on flora nationally listed under the *EPBC Act* as vulnerable (1 species).
The potential threat to listed migratory fauna (9 species).
- Failure to identify significant species of flora.
Failure to recognise the threat posed by Weeds of National Significance within the proposed site.

In addition, the Society is extremely concerned about:

- The principle of a small area (Stage 1, with limited encroachment on Ben Bullen State Forest) being approved, whereas the proponent is really attempting to 'test the water' and create an expectation of approval for the larger Stage 2 area (wholly within Ben Bullen State Forest) despite acknowledging the latter's more substantial environmental problems.

- The apparent belief that because an area is already impacted by mining, extending the impact into Ben Bullen State Forest has no significant consequence.
- The disingenuousness of couching Stage 1 in terms of maintaining employment, while linking the application to rehabilitating the old Yarraboldy Open Cut Mine and the current Pine Dale Coal Mine footprint. Surely rehabilitating the latter (at least) is already mandated?
- The simplistic approach to rehabilitation of open cut mines. In environmentally sensitive areas it is particularly unacceptable because of its superficial ‘cosmetic’ approach.

1. Previous considerations

The referral document notes that the Yarraboldy Extension of the Pine Dale Coal Mine was a Part 3A approval by the Deputy Director-General of the NSW Department of Planning (as a delegate for the Minister for Planning) on 20 February 2011 (PA 10_0041). It also references the Environmental Assessment (EA) by Corkery (2010) on which the approval was substantially based. No reference was made to the submissions opposing approval by the Colong Foundation, Lithgow Environment Group, and BMCS. Furthermore, no mention seems to have been made about Pine Dale’s responses to the submissions, as prepared by its consultant.

BMCS did not reply to Pine Dale’s responses because they were largely fatuous. The consultant either reiterated (but in no way justified) the parts of the EA which BMCS was querying, or apparently misunderstood some of the matters being raised because the response failed to deal with the content. The Society’s limited human resources, coupled with the fact that coal-mining applications in NSW are rarely refused, resulted in a value-judgement that further pursuit of the matter was pointless.

The Lithgow Environment Group (LEG) did, however, question the fact that the flora species listed in its submission were apparently disregarded (indeed rejected) by Pine Dale, and wrote to the Department of Planning accordingly. LEG concurrently raised concerns about Purple Copper Butterfly populations, the inadequacy of the Biodiversity Offset proposed by DECC, and the potential for remnants of Box Gum Woodland.

In the context of the preceding paragraphs, BMCS attaches:

- a copy of its submission to the Department of Planning (*Appendix A*);
- a copy with photographs of the LEG submission (*Appendix B – submitted as a separate email attachment*); and,
- a copy of LEG’s subsequent letter to the Department of Planning (*Appendix C*).

The Society sincerely hopes that these will receive your attention.

2. Implications for the Coxs River system, the GBMWA and Sydney’s water-supply

Further information regarding this concern is provided in *Appendix A, Section 5*.

Neubecks Ck (NC) is a perennial stream feeding the Coxs River, which ultimately enters the GBMWA and thence onto Lake Burratorang (Sydney’s water-supply dam). The Yarraboldy Extension Stage 1 abuts NC where it is locally a ‘losing’ stream. The open cut will compromise the catchment of streams feeding NC. In doing so, it will impact on the quantity (volume) of surface water. This may be of little significance under La Niña conditions, but at times of drought (El Niño), particularly where this is exacerbated by climate change, the volume of surface flow entering the Coxs system will be reduced. There will inevitably be an impact on the flora and fauna comprising the ecosystems of the Upper Coxs River and those downstream in the GBMWA. Furthermore, although on the scale of the entire Lake Burratorang catchment, the quantity-loss is small and might be deemed insignificant, it is only a few years since Lake Burratorang was seriously depleted during drought conditions.

Some steps are implemented to reduce loss of contaminated water to NC, but the intention to use ‘dirty’ water and Old Wallerawang mine-water for operational purposes raises concerns, particularly during high-rainfall periods when water-excess would be discharged to NC. Such discharge waters will have a higher salinity and heavy metal content than the natural flows along NC, thereby increasing the risks to ecosystems in the Upper Coxs River and even downstream in the GBMWA. The

company provides no significant plans to treat the waters to appropriate drinking water standards. This should be a fundamental requirement for any discharges to water courses flowing into the GBMWA.

The magnitude of these impacts from Stage 1 may be deemed marginal, but it is abundantly clear that the company will refer Stage 2 for consideration in the near future. The magnitude of the impacts will escalate exponentially as a function of area. It would be naïve to approve Stage 1, knowing full well that the company intends to refer Stage 2 and, based on recent MLAs (375 and 376), even move to stage 3 and beyond.

3. Impacts on fauna and flora

3.1 Fauna

The Stage 1 area (despite its small size) has potential for the Regent Honeyeater (endangered), Swift Parrot (endangered), and Australian Painted Snipe (vulnerable). Despite acknowledging the potential, the referral deems a significant impact on the latter two bird species neither expected, nor likely, whereas the impact on the former species is just considered unlikely. The principal reason for the 'unlikely' impact on the Regent Honeyeater seems to be the relatively small area (14 ha) to be cleared.

The Society acknowledges the reductionist argument, but wishes to emphasise that the area to be cleared is the southern limit of the Ben Bullen State Forest. Bird species which use the forest do not recognise the man-defined boundaries of the Yarraboldy Extension. The Regent Honeyeater could certainly be impacted because Stage 1 contains undisturbed habitat proximal to water in NC.

The Stage 1 area also has potential for the endangered Spotted Quoll, while the vulnerable Pied Bat and Flying Fox are 'known'. Of these, the Pied Bat will be most affected. It exists in the Ben Bullen State Forest, roosting and breeding habitat is known within the Stage 1 area, and a *'pre-clearance tree felling procedure'* is to be implemented. This involves (Referral doc p28) *"the clearing of all non hollow-bearing trees whilst leaving hollow-bearing trees standing for a minimum of 24 hours. The remaining trees will then be inspected by a suitably trained or qualified person prior and after felling to limit harm to any individuals."*¹ The company considers that a significant impact on the species is unlikely in view of the extensive areas of adjoining forest. Yet again the Society emphasises that Stage 2 (should a precedent be set with Stage 1) will remove a further 220 ha of the adjoining forest, while even later stages (based on recent MLAs) will destroy even more forest.

Potential exists for 9 listed migratory species. Any impact is deemed negligible based on the small area of foraging habitat in Stage 1; but watch out for Stage 2!!

The vulnerable Purple Copper Butterfly (PCB) is at risk from Stage 1. This is obvious from known populations being small and isolated, a consequence of the PCB's sedentary nature resulting in a low dispersal capability. Despite this, the company argues that precautions will be taken, mining should go ahead, and the population should be monitored.

The Society suggests that:

- the analysis of impacts on PCB populations is too limited in terms of knowledge of variables to place anything more than anecdotal value on the data;
- whereas monitoring during the proposed mining will be an interesting research project, such monitoring inevitably sets dubious criteria and prescribes responses which will facilitate ongoing mining; and,
- the PCB management plan has been designed by a consultant to manage the risk of exceedances without knowing the sensitivity of the permitted levels and the true impact of the mining process on a fragile community.

¹ Without being too disparaging, this has to be a joke. You're living in a house, all the surrounding houses are bulldozed, and then you are told you have 24 hours to pack up and leave before being forcibly evicted.

The Society therefore suggests that the PCBs alone necessitate Stage 1 being a controlled action. Furthermore, despite the Stage 2 exclusion zone marked on Fig. 4² (referral doc, p24), it is abundantly clear from Fig. 4 that Stage 2 would substantially impact on the PCB habitat.

3.2 Flora

Thesium australe is the only 'known' listed plant species in the Stage 1 referral document. The Stage 1 exclusion zone should provide adequate protection. However, the Society wonders whether a search for additional *Thesium australe* might be rewarded? The Society also notes that the habitat of these plants extends into the Stage 2 area. It would once again seem that the company is 'testing the water' by seeking approval to exploit a small partially degraded area, before attempting to expropriate a significant portion of Ben Bullen State Forest with its proposed Stage 2 referral.

Of far greater concern, based on information recorded by Mr Chris Jonkers (Lithgow Environment Group) and reported in Mr Muir's submission on behalf of the Colong Foundation (dated Tuesday, 5 July, 2011), is the failure to record several Endangered and Vulnerable plant species, together with the failure to examine the significance and adverse impacts of Weeds of National Significance (WONS). The Lithgow Environment Group's original submission to the Department of Planning constitutes **Appendix B** (forwarded as a separate email attachment) of the Society's submission.

The Society endorses the Colong Foundation's concern about the spread of WONS into the adjacent Ben Bullen State Forest. Of course, a cynic might consider that this will not be a problem because the Forest will be destroyed by Stage 2 when/if approved!

4. Other issues of concern

These were highlighted in the **Summary statement (Ss)** as dot-points 4 to 7.

4.1 Reductionism – Ss dot-points 4 and 5

Attention has already been drawn to the concern the Society has about the reductionist approach whereby a company may employ a series of referrals, when the long-term intention is to progressively expropriate public land for private use. The ploy is to gain approval for a small area (including a piece of State Forest) in which, because of past degradation by mining and because of the relatively small area, the environmental concerns are minimised. Typically, the referral can say: the catchment area affected is small and therefore the loss of run-off is negligible; the extent of habitat for a listed species is small or even absent; and impact of lost habitat is negligible because extensive habitat exists in the adjacent State Forest. Such statements **may** be true, but they disregard the intention to extend mining activity into the much larger area, thereby adding to the cumulative impact on the environment and effective liquidation of public land.

In the present case, the reductionist approach is being used by the one company, but the approach is similarly being exploited by adjacent companies along the lower slopes of the western Blue Mountains. A classical example is provided in the Colong Foundation's submission (dated Tuesday, 5 July, 2011) in relation to Box Gum Woodland & *E. cannonii*. Individual applications argue that only small portions of habitat and catchment are compromised, but the cumulative impacts are enormous.

It has been suggested that this concern is not within the purview of the SEWPaC and the EPBC Act. The Society can only say that if it isn't, it most certainly should be. Continuity of habitat is vital to the preservation of species; fragmentation of habitat engenders species loss, including those of national significance.

4.2 Employment and rehabilitation – Ss dot-point 6

Providing employment may be a factor in adopting the Stage 1 approach, but the Society suspects it is a factor of convenience rather than a controlling issue. From an employee's viewpoint it might reasonably be asked why a company, which has been in

² The Society notes in passing that the colour labelling of the PCB and *Thesium australe* populations is transposed; similarly, the exclusion zone for *Thesium australe* and the fence to protect *Bursaria* are colour transposed; also, the spelling of *Thesium austral(e)* varies within text and Figures. Such errors in relation to the protection of listed species do not inspire confidence.

the area for a substantial time, has failed to plan its operations sufficiently far ahead, such that it needs to resort to a stop-gap measure?

Much is made in the referral of the rehabilitation of an old open cut and the current Pine Dale mine. It may be convenient for the company to include such things. But rehabilitation should be mandated for all mines. It should not be a factor in seeking approval to create another open cut. The history of small companies failing to meet rehabilitation responsibilities is not acceptable.

4.3 Simplistic approach to rehabilitation – Ss dot-point 7

The Stage 1 referral indicates that the most of the Yarraboldy Extension (Referral doc pp10-11) “...*would be rehabilitated back to forest/woodland (i.e. approximately 24.24ha). The aim of the final landform would be to re-create the features and general characteristics similar to the existing landform including the reconstruction of drainage lines generally in the locations of the pre-mining drainage...area owned by Forests NSW will be returned to State Forest whilst the area owned by Enhance Place Pty Limited would be maintained for the purpose of nature conservation.*” This and the processes outlined (p10) **seem reasonable – at first! But they don’t withstand closer examination.**

- As should be abundantly clear, despite the company’s assurances about the viability of Stage 1, the aim is to extend operations into Stage 2 and beyond. In such circumstances, when will rehabilitation commence? A further 20+ years from now would seem likely! In the interim, at least 220 ha of the State Forest will have been destroyed, an additional 20+ years would then be needed before ‘rehabilitated vegetation’ would remotely approach the destroyed old growth, and the protracted absence of habitat would have ensured the loss of dependent flora and fauna.
- The aim is to rehabilitate the area to forest/woodland to a level acceptable to Forests NSW. Monitoring will continue annually for 5 years and biennially thereafter until (p11) “...*criteria associated with its sustainable end land use...*” are met and the Mining Lease is relinquished. The State Office of Environment and Heritage has affirmed a prior decision (2006) of the Department of the Environment and Conservation (DEC) to reserve Ben Bullen State Forest as a State Conservation Area within the national park system. Open cut mining should have been rejected for this reason alone, but DEC’s wishes were by-passed by the now discredited Part 3A approach. So, even if Stage 1 is allowed (Stage 2 should never be permitted!) land management and rehabilitation processes should be consistent with a conservation end-use rather than forestry.
- Even if the landform is faithfully reproduced and drainage channels re-established, the result is far removed from what was there beforehand. Open cut mining destroys a physiography, the underpinning hydrologic regime, and the dependent ecosystems, which have evolved over (at least) thousands of years as an interplay between rocks, soils, vegetation and climate. Mining extracts a soil- and vegetation-covered stratified sequence with different vertical and horizontal hydraulic conductances and a related watertable. The run-off and drainage patterns reflect this unique hydrologic regime comprising the interaction between surface flows and groundwater.

Rehabilitation involves placing fill in a hole, sculpting it, covering it with soil and planting it. It never reproduces the original stratification, the original hydraulic properties, and the hydrologic regime. Even if specific drainage lines are recreated, there is little likelihood of the stream’s base flow being recreated because the lack of underpinning stratification means that a different watertable will eventuate. Rehabilitation is purely cosmetic. It is rather like applying pancake make up to an older person; it covers the damage but will never restore what was once underneath!

***Dr Brian Marshall,
For the Management Committee***

11 July, 2011

Appendix A

BMCS Submission on Pine Dale Coal Mine Yarraboldy Extension: Application No: 10_0041

1. Introduction

This submission unequivocally opposes the application.

A preliminary online submission registering the Society's concerns was acknowledged by Kate MacDonald on 15/09/10. In appreciation of Ms MacDonald's response, the Society resolved on 18 September at its formal Management Committee meeting to make a more substantial submission.

The Society has had the benefit of examining submissions by the Colong Foundation and the Lithgow Environment Group (LEG). BMCS has links through membership with both these organisations. Furthermore, several members of LEG comprise BMCS' Lithgow Regional Subcommittee. These matters are emphasised because the Society shares the principal concerns of the other two organisations and endorses the content of their submissions.

In view of this commonality, the Society requests that the three submissions (Colong, LEG and BMCS) be treated **both collectively and individually**. This matter is emphasised because the organisations have different levels of available expertise and have inevitably focused on different (though complementary) aspects of the application,

2. The Application's context

The application is for 2.5 years of coal extraction and 0.5 years of 'landform creation'. The application is opposed in its own right; but this application is a **stopgap**, because apparent mismanagement has resulted in a far more extensive application³ not being available before the currently approved resource is exhausted at September-end 2010.

BMCS' contextual concerns:

- The extent of EA 10_0041 – the EA covers 26.5 ha, **plus** approximately 83 ha of the existing Pine Dale Coal Mine in terms of “*continued use of the mine's surface infrastructure*” and “*rehabilitating the site*”. Should the Part 3A application **not** be granted (as is BMCS' preference), it is critically important that site rehabilitation **not be compromised**⁴.
- Should this stopgap application (10_0041) be granted, DoP is effectively telling Enhance Place Pty Ltd that the 'delayed' more extensive application (another ~200 ha) would be treated favourably. In such circumstances, the objections raised in this submission, together with those in submissions by the Colong Foundation and LEG, are enormously magnified (by about 750% in terms of area!). **BMCS emphasises that whereas the BMCS submission deals with the current application (10_0041), the impacts and concerns identified will be grossly exacerbated by Enhance Place's envisaged (200 ha+) expansion.**
- The DGRS is dated March 23, 2010; the application (10_0041) comprising >300 MB of data went on exhibition from August 19 to September 17; the approval to avoid 'closure' of the mine is needed by

³ Preparation commenced in 2008, was intended to cover 20 years' supply, and has been 'delayed' due to a number of unexplained 'issues'. [YarraboldyEA_ExecSummary pES-2].

⁴ Too often, 'small' companies fail to meet rehabilitation commitments through supposed lack of financial resources.

September-end. Three matters are raised: firstly, no CD option was provided despite the difficulty of dealing with such voluminous downloads (cf. LEG submission item 7); secondly, although additional submissions may be considered during the assessment period, the short exhibition time makes it extremely difficult for volunteer organisations to comply (see items 2 and 3 of BMCS' preliminary online response); and thirdly, no information is provided on the duration of DoP's assessment period, particularly noting that Enhance Place expects to run out of coal by September-end. **Is it any wonder that those opposing the application see the approval under Part 3A as a formality, provided the Company jumps through the hoop of supplying a glossy but partially inadequate EA?**

- A total disregard of the open cut's visual impact on the Gardens of Stone Stage 2 (GoS2) Proposal – this will be dealt with as a separate issue (see section 4 below).

3. Visual impact on the Gardens of Stone's scenic values

Attempts to reserve Ben Bullen State Forest have been ongoing since the mid-eighties, but were re-invigorated by the GoS2 Proposal in 2004. DEC (now DECCW) assessed GoS2 in 2006⁵ and deemed that Ben Bullen and Wolgan State Forests had *inter alia* scenic values worthy of reservation. Then, and on several occasions since, DECCW has indicated that reservation of these forests will be progressed once issues associated with the Mt Airly State Conservation Area (SCA) are resolved. DECCW has also advised that Forests NSW supports the transfer to SCA reservation because the timber yield is negligible.

If approved, the Yarraboldy open-cut extension would create major scars, several tens of meters high and visible from the Castlereagh Highway, along the application's (10_0041) northeastern boundary. These scars would be greatly amplified and even more obtrusive along the slopes of the Great Dividing Range, if the foreshadowed more extensive application materialises. Visual pollution and the destruction of 27 and potentially 220 ha of biodiverse old growth forest will adversely impact the western margin of the GoS2 Proposal and should not be countenanced.

To some, such desecration of high value land is considered justifiable collateral damage in terms of limited employment from mining a finite and poor quality resource. The alternative is to conserve the environment and its values, and have a burgeoning tourism industry based on natural assets. **Committing to a poor quality diminishing resource, which can neither compete financially with a superior product brought in by rail, nor withstand the impact from the impending carbon-price regulation, is a short-term non-solution.**

4. Floristic and faunal values – compromised biodiversity

The LEG submission on floral attributes comprehensively demonstrates that:

- the investigation of the region's flora is inadequate – the species list is remarkably incomplete, some threatened and endangered species and communities have seemingly been missed, and many statements in the EA's Executive Summary are demonstrably suspect;
- the EA report provides a distressingly poor basis for assessing the application's (10_0041) impact on floristic values; and,
- whereas the assessment of flora could be redone by a competent botanist, a realistic evaluation of what is **already known** from a range of sources would provide a sound basis for rejecting further encroachment by open cut mining on the floristic values of the area.

In relation to faunal values, the EA demonstrates the range of species which would be impacted by the total removal of their habitat. As many of these species are listed as vulnerable and endangered under the respective State and

⁵ "Gardens of Stone Stage 2 Proposal – Assessment Report" DEC, August 2006

Federal legislation, it would be unconscionable to effectively scalp the region. ‘Rehabilitation’ many years later will never re-create the level of biodiversity for which the region is recognised.

5. Water issues (groundwater and surface water)

Potential impacts on groundwater and surface water are the two principal risks according to the EA. As with most EA’s of this type, there is an attempt to separate discussion of the water-types, whereas when dealing with open-cut workings, a pre-existing surface water system and groundwater within shallow underground workings, it is important to recognise that the groundwater and surface water are intimately related and interdependent.

5.1 Influence on Neubecks Creek

Neubecks Creek (NC) was perennial before mining in the 1950’s and still is perennial although its course has been modified. The principal contributing aquifers are the Lithgow, Lidsdale and Irondale Seams which interact with any surface wash and leakage from unconfined aquifer components over the NC catchment. Adjacent to the Yarraboldy Extension (YE), NC is a losing stream but upstream and downstream of the YE it is a gaining system (EA-Part1-Fig. 10). The pre-mining rate of groundwater recharge to the area of the proposed YE is in the order of (EA-Part1-62) “...2.7m³/day, based on an assumed recharge rate of 1% of total yearly rainfall (620mm/year).” This suggests that in the order of 54-135m³/day⁶ should have been gravitating to NC. The progressive development of the YE open cut must therefore detract from contributing run-off and seepage along a section of NC, thereby exacerbating the losing characteristic. This is demonstrated by ES-10: “During the first 18 months of the Project...rainfall recharge may provide sufficient water for operational requirements...” **Thus, the application (10_0041) has the capacity to reduce the natural flow within NC, and remove the moderating influence on water quality that the rainfall run-off would have provided; it must consequently detract from the downstream environmental health of flora and fauna.**

The above finding **in bold** refers to **total** flow and does **not** therefore conflict with the quotation (EA-Part1-64) “...that the proposed Yarraboldy Extension would have no impact on Neubecks Creek groundwater baseflows...” **But** the quotation continues “...and the water quality within the creek.” **BMCS rejects this.**

Again, the above finding **in bold** seemingly conflicts with the EA Executive Summary which states (ES-11): “...it is unlikely that the Project would have significant impact on the quantity and quality of water discharging into Neubecks Creek...” Clearly, the operative word is significant, so it is appropriate to complete the quotation: “...and thus on the Warragamba Dam Catchment and Sydney’s water supply.” BMCS acknowledges that within the context of the entire Warragamba Dam Catchment there would be no significant impact, **but this in no way detracts from the impact on NC’s flows and the downstream environmental health of flora and fauna.**

BMCS notes that existing water management structures within the Yarraboldy Extension area capture (ES-11) “...the vast majority of clean water generated from the local catchment. Hence, it is unlikely that significant volumes of clean water currently would flow into Neubecks Creek from the proposed extension area.” BMCS considers that: (i) ongoing use of this infrastructure is part of application 10_0041 – even if structures such as the diversion bank were originally approved, the clean water capture should not be perpetuated; (ii) application 10_0041 involves open-cut mining of part of the clean water catchment (and a lot more if the envisaged expansion is sanctioned) thereby creating new circumstances and a need for reassessment.

BMCS notes that, despite collection of clean water at the northern limit of the YE and its partial transfer via artificial and natural drainage lines to NC, EA-Part2-62 states that flows “...would still be lower than that which once occurred naturally through the system prior to the establishment of the former Yarraboldy Open Cut Mine, due to the decrease

⁶ If 1% is infiltrating and substantial losses occur through evapotranspiration, run-off could be in the range of 20-50% of the total annual precipitation.

in catchment attributed to the Project Site.” This is the point that BMCS continues to make: **less clean water would reach NC and this will influence quality and downstream ecosystems.**

5.2 Old Wallerawang mine-make

The YE site is underlain by approximately 24ML of groundwater/mine-make within the old Wallerawang underground workings. The development of the open cut and extraction of the coal would progressively dewater this at a rate of 9.6 ML/yr. An assumption is made that the hydraulic connectivity to other workings is negligible and will not significantly increase the volume of water (EA-Part2-88). **BMCS questions the validity of this assumption, as there could be leakage from the overlying Lidsdale and Irondale Seams (EA-Part1-65) and from workings along-strike immediately east of the YE (EA-Part1-Fig. 8).**

Dirty water and old Wallerawang mine-make will be retained onsite and reused for operational activities (e.g. dust suppression), but particularly during wet years the water-excess will necessarily be discharged to NC or to the old Wallerawang underground workings (EA-Part2-90). **BMCS is concerned about additional pollution of NC by such discharges and supports the detailed analysis presented in the LEG submission.**

5.3 Dewatering collapse of old workings

During extended periods of dry weather additional water may be sourced from the old Wallerawang underground mine workings and ultimately be returned to the dirty water system. This potentially enhances the concern raised in section 5.2 paragraph 2. However, it also raises the problem of potential collapse of partially dewatered old Wallerawang workings.

Extraction depressurization results in instability, pillar and roof failure, and risk of subsidence. Initial failure in a small area can result in failure propagating to other parts of the underground workings⁷. **BMCS considers the associated risk has been inadequately defined in view of uncertainty related to the return of drought conditions and the sourcing of water from the old workings.**

6. Social issues

Numerous issues regarding maintenance, extraction and treatment, trucking, and blasting hours and their collective impact on the amenity of people living in the Blackmans Flat region have been presented in detail by LEG. A possible solution (should this application approved) is suggested in the Colong submission. BMCS endorses these sections of the Colong and LEG submissions, and questions the values of a society which places environmentally destructive coal extraction above the longer term benefits of reduced greenhouse gases and enhanced tourism.

***Dr Brian Marshall,
For the Management Committee***

25 September, 2010

⁷ http://archive.lithgow.nsw.gov.au/agendas/10/100920_agenda.pdf - refer to item 8 p28.