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Dear Alison,

Total Environment Centre welcomes the opportunity to make this submission on the Bulli Seam Operations Environmental Assessment. Total Environment Centre believes that the submission process provides further opportunity to advance protection measures for significant natural features in the areas to be impacted.

While welcoming the proponent's decision not to mine directly under the 5 major rivers (as identified by the proponent) within the project area, Total Environment Centre believes that the project poses unacceptable risks to upland swamps and the highly significant Dharawal State Conservation Area.

There is certainly insufficient information to allow extensive mining to go ahead. Further there is a fundamental breach of the precautionary principle given the amount of high conservation land to be affected and the undue reliance on monitoring disconnected from environment protection and problematic rehabilitation. To this end an approval, if granted for the Bulli Seam project should:

1) Grant approvals for sections of the project in stages commencing in the western portion of the project area first and avoiding mining under Dharawal SCA and the Metropolitan Special Area
2) Improve the monitoring program to allow for adaptive management strategies that must be implemented prior to mining in sensitive areas. As it stands, monitoring results will come too late to respond adequately to the negative impacts of mining on the environment
3) Avoid mining under Dharawal SCA (acknowledging NPWS proposed strengthening of it's conservation status and intended nomination of its upland swamps for RAMSAR listing contained in the Plan of Management) and surface impacts on major watercourses.

We also look forward to engaging with the Planning Assessment Commission (PAC) process in this proposal and propose to engage wetlands experts to assist us with that engagement. We may also wish our engagement with the PAC to extend beyond the issues covered by this submission.

Yours sincerely,

David Burgess
Natural Areas Campaigner

TOTAL ENVIRONMENT CENTRE
SUBMISSION ON
THE BULLI SEAM OPERATIONS ENVIRONMENTAL ASSESSMENT

INTRODUCTION

The Bulli Seam Operations proposal is essentially an enormous expansion of mining in the Southern Coalfield combining exiting mines and new mines. It potentially impacts upon 47 rivers and streams, 226 swamps, 661 cliff lines and 623 Aboriginal heritage sites. As well as covering a large area of private land the 22,000 ha project area covers tenures of increased environmental protection including the Dharawal State Conservation Area (SCA) and the Metropolitan Special Areas. The expansion will also see an increase from the current 7.5 Mtpa ROM coal production to 10.5 Mtpa and will result in 5.35 Mt of CO_2 entering the atmosphere – an approximate increase of 40% from current levels. The proponent states these emissions will be reduced by about 250,000 t (or 4.6%) through its WestVAMP facility. Coal waste material going into the West Cliff Coal Wash Emplacement Area will also be increased requiring the clearing of 67 ha of native vegetation.

In assessing the Key Environmental Issues the proponent primarily uses the findings of the Southern Coalfield Inquiry (SCI) and Metropolitan Planning Assessment Commission (PAC) Report, along with modifications to the findings of the Southern Coalfield Inquiry by the Metropolitan PAC, to prepare its Environmental Assessment. A key finding by the Commission was its embracing of the concept of Risk Management Zones (RMZs) and its recommendation that they be included in a broader risk framework. Another key finding by the Metropolitan PAC was that the Reverse Onus of Proof recommendation by the SCI be modified to become a demonstration by the proponent of "reasonableness".

The Metropolitan PAC also went on to say:

> "A number of submitters, including two government agencies, attempted to turn the concept into a requirement for a Proponent to prove beyond reasonable doubt that no consequences would occur if undermining of the feature was approved. Given the knowledge gaps in the relationships between subsidence impacts and consequences for natural features, and the poor databases for many key features in the region, this would effectively put the Proponent in the position of trying to prove the unprovable."

Total Environment Centre (TEC) feels that this is a somewhat harsh interpretation of the position taken by community and conservation groups and the government agencies concerned (presumably the Department of Water and Energy and Department of Environment and Climate Change). In our Supplementary Submission to the SCI we attempted to lay some of the foundations for that broader risk framework by recommending regulated risk values be allocated to certain important natural features within a coalfield that were identified prior to Environmental Assessment.

While TEC feels that the Director General's Requirements for both this proposal and the Metropolitan Coal Project does improve on the Risk Management vagaries of the SCI, the absence of set values and required protection mechanisms for important natural features has lead to a proposal that is not risk averse. While RMZs are open to different interpretation by different mining companies with differing values and methodologies this will continue to be a problem with future longwall mining proposals.

RISK MANAGEMENT

Most of the natural values (streams, swamps, cliff lines and Aboriginal sites) within the project area occur in areas reserved for conservation or water supply purposes. In the proponent's risk analysis remediation is overwhelmingly favoured over avoidance, which fails to respond to these tenures and afford recognition to the environmental values of the areas as recognised by both the scientific and general community.

Where the recent Metropolitan Environmental Assessment identified specific pools and rockbars at risk from subsidence damage, including which of these would be subject to remediation works if damaged, the Bulli Seam operations EA does not. A number of streams within the project area are in or near pristine condition, including the almost wholly protected catchments of Stokes and O'Hares Creeks. Even temporary loss of water in the permanent pools that characterises the watercourses of the Woronora Plateau would have a devastating impact upon aquatic ecosystems, migration patterns and other ecological values.

While the EA underscores the level of risk posed to important natural features within the Dharawal SCA and the Special Areas, the proponent seeks to take panel widths out to 300m. Smaller panel widths have already resulted in cracked watercourses and drained pools in the nearby Waratah Rivulet and Lower Cataract Rivers. The Upper Cataract has also been impacted by riverbed cracking from mining in Appin Area 3.

In regard to upland swamps the EA states:

> "No individual swamp or group of swamps in the Project area are considered to be sufficiently unique or different so as to require identification of 'special significance' and thus requiring special consideration in a risk assessment framework." (EA 5-19)

This is in stark contrast to the assessments of the values given to the swamps by the Federal Government which lists the O'Hares, Woronora and Cataract catchments on its Directory of Important Australian Wetlands and the NSW Department of Environment Climate Change and Water in documents such as the *Dharawal Nature Reserve and Dharawal State Conservation Area – Plan of Management* (see section on Dharawal SCA) and *Terrestrial Vertebrate Fauna of the Greater Southern Sydney Region* which describes upland swamps as "priority habitat" for the threatened fauna of the region and states:

> "Alteration to habitat following subsidence due to longwall mining is a threat that is particularly pertinent to the Greater Southern Sydney Region. Up to half of the Woronora Plateau is planned to be undermined in the future, and this is a critical area for many species that are dependent on Upland Swamps, which may be drained by this process."

The proponent also believes the swamps in the project area to be low in water yield and making a "relatively low" contribution to the overall water balance of the catchments (EA O-12 & O-13). TEC would like to see this claim examined in any future PAC Inquiry as it appears to be in dispute with the opinion of other wetland and swamp ecologists and hydrologists.

However the SCI found that "the hydrologic properties of the Southern Coalfield swamps are poorly studied." (SCI, p19) and:

" … there is no current scientific consensus over the potential impacts that mining subsidence may have on either valley infill or headwater swamps. Further, there is currently no generally accepted technique for prediction of subsidence impacts on swamps." (p83)

The NSW Department of Natural Resources (*Facts About Wetlands*) position on the significance of upland swamps is as follows:

- The hanging swamps of the Sydney sandstone have some of the highest species richness values in the world for shrub/sedge dominated communities (Keith and Myerscough, 1993).
- Upland swamps, particularly peat swamps, are important parts of catchments because they absorb water and allow runoff for long periods after rainfall has ceased.
- Peat swamps have outstanding scientific value as sites for carbon dating and pollen analysis that can provide valuable insights into climatic and ecological changes (Pressey and Harris, 1988).

The DNR's inventory of the Georges River estuary (http://www.dnr.nsw.gov.au/estuaries/inventory/georges.shtml) also states that "Woronora Dam, removal of upland swamps, groundwater extractions and past dredging have modified the volume and pattern of river flows."

The risk analysis does not demonstrate what would trigger a protection zone (of the kind proposed in the past by other NSW Government agencies (e.g. in DECC's submission to the SCI) and environment organisations. It is clear to TEC that the failure of the SCI and Government authorities following the SCI to specify values, triggers and actions governing subsidence impacts on natural features (be it on a general or case by case basis) is allowing mining companies to conduct risk analysis while presenting little data, unspecified response actions (such as where avoidance would be practiced or precisely which locations remediation would be practicable) and a blurred picture of what damage will occur both in specific locations and cumulatively.

TEC's supplementary submission to the SCI following the public hearings proposed that associated with a Part 3A application for longwall mining:

"…would be a regulatory instrument (not guidelines) that:

- specifies risk levels and aligned actions (prevent damage, minimize and monitor) that include minimum buffers for the first two;
- requires early consideration of mine layout by regulatory agencies and community representatives, prior to submittal of Part 3A application;
- provides accurate information on natural features potentially at risk prior to the early consideration.
- provides scope for the cumulative impacts of longwall mining to be assessed and regulated across catchments, sub-catchments, swamp clusters and aquifer systems.
- renaming Subsidence Management Plans as Subsidence Avoidance Plans (SAPs)

These regulatory features and data should operate with the objective of creating a clear route to environmental protection; thus ruling out the current approach of remediation strategies and 'gaming' on the process by mining companies."

We still feel that such an instrument is essential to achieving the principles of Ecologically Sustainable Development under the NSW Environmental Planning and Assessment Act (1979).

UPLAND SWAMPS

With the EA identifying 226 swamps in the project area TEC has identified this as a critical issue. To gain more certainty TEC has engaged Wetlands Australia to provide independent analysis of upland swamps and the proponent's Upland Swamp Risk Assessment (EA Appendix O).

The findings of this report will be presented at the PAC hearings. TEC is currently of the opinion that conservation of upland swamps of the Woronora Plateau is a priority and that systematic dehydration of swamps and swamp clusters has the potential to impact significantly on fauna, alter the characteristics of swamp vegetation and increase fire risk.

We are also concerned that the monitoring program outlined in the EA will not run far enough ahead of mine planning so to allow for meaningful avoidance measures should impacts on conservation and/or hydrological values occur.

DHARAWAL STATE CONSERVATION AREA

TEC has major concerns regarding mining at North Cliff Colliery under the Dharawal SCA.

While the existing lease appears to override concurrence of the Minister for Environment, Climate Change and Water under Section 47J of the National Parks and Wildlife Act 1974, Regulation 14 of the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 requires that:

> "(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following:
>
> (a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable,
>
> (b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable,
>
> (c) that greenhouse gas emissions are minimised to the greatest extent practicable.
>
> (2) Without limiting subclause (1), in determining a development application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions."

Parts 14-1 (a) and (b) appear to indicate that stricter standards of assessment are necessary in certain circumstances yet in the very structure of the EA and its risk assessment (Appendix N) the proponent does not appear to assess potential environmental impacts within Dharawal SCA as being on land valued legislatively and by society as being of a higher conservation value. This observation also applies to mining within the Metropolitan and Woronora Special Areas.

The Dharawal Nature Reserve and SCA Plan of Management (2006) describes the area as:

" … contiguous reserves encompassing a combined area of approximately 6,613 hectares … [comprising] almost the entire catchment of the O'Hares and Stokes Creeks.

"The reserves contain significant biodiversity values. Extensive upland swamps, containing some of the highest species-rich values in the world, characterise a large proportion of the reserves. Major populations of three nationally significant flora species have been recorded and eleven species reach their southern limit of distribution in the reserves. Some twenty endangered or vulnerable fauna species have also been recorded, including the Koala and Eastern Pygmy Possum.

"The area has cultural significance as the home of the Dharawal Aboriginal people and the reserves contain a high density of Aboriginal sites.

"Reflecting the need to protect the high conservation significance of the reserves and compatibility with their status as a Special Area, the emphasis of management of the reserves will be scientific research, environmental monitoring and educational use, and a range of generally self-reliant recreation opportunities."

Combined, Dharawal SCA and Nature Reserve encompass almost the entire catchments of both O'Hares and Stokes Creeks. These are recognised as the only two major catchments on the Woronora Plateau not to have been impounded for water supply purposes.

The EA states that 18 species of threatened vertebrate fauna are recorded in the SCA. However the *Terrestrial Vertebrate Fauna of the Greater Southern Sydney Region* report and the NSW Wildlife Atlas appear to indicate there are significantly more. Several of these species are federally listed.

In 1998 a Memorandum of Understanding (MoU) regarding the then Dharawal State Recreation Area was signed by National Parks and Wildlife, the Department of Mineral Resources and BHP Steel (EA Attachment 6). This MoU was not altered in either of the 5-year review periods provided for in the document. In 2002 TEC commented (through its position on the Resource and Conservation Assessment Council) that such MoUs "should ensure a higher level of environmental assessment, other than those specified in the EP and A Act 1979 and yet to be specified protocols".

NPWS lists the following as specific management objectives for the two reserves:

- protect and maintain the high water quality and yield of catchment streams within the reserves consistent with the established water quality and river flow interim environmental objectives;
- protect and conserve the full range of native species, populations and ecological communities in as natural state as possible;
- foster and encourage Aboriginal community involvement in the conservation and management of the natural and traditional cultural values of the reserves;
- maintain established ecological processes and promote recovery of ecosystems and processes where disturbed;
- avoid new disturbance, and minimise and rectify adverse environmental impact associated with existing interests and visitor use of the reserves;
- safeguard structural landscape features and rock exposures;
- wherever possible, progressively eliminate exploitation or occupation inimical to the purposes of reservation and principles of management; and
- utilise an adaptive approach to management based on periodic monitoring and assessment of ecological integrity and cultural heritage values and emerging scientific data.

The overall strategy for the reserves notes:

> "Reflecting the high conservation significance and little disturbed nature of the two reserves, the state conservation area category will be reviewed in consultation with the Department of Primary Industries - Mineral Resources, either every five years or when existing mining interests expire. The option of re-classification to a more appropriate protected area category such as national park or nature reserve will be considered at that time."

An intention to nominate the upland swamp communities for RAMSAR listing is also stated. A key component of the MoU is that mining "recognises and respects the long term land use of the area for conservation, scientific, water quality and recreational purposes". It is clear from the 2006 Plan of Management that an intention exists to strengthen the conservation status of the SCA to a "more appropriate" tenure and nominate its upland swamps for RAMSAR listing. Nowhere in the EA is it acknowledged how the proponent will specifically attempt to maintain the values of Dharawal SCA to achieve its overall strategy and objectives.

Furthermore, a recent report (Ecological Australia) commissioned by the Federal Department of the Environment, Water, Heritage and the Arts (DEWHA) in order to assess islands of mainland biodiversity in terms of their conservation value and threats posed to those areas, mainly by vertebrate pest species, ranked the Dharawal area within its top 100 sites in Australia with particularly high biodiversity values.

TEC believes that longwall mining poses an unreasonable and unacceptable risk to the ecological integrity of the Dharawal SCA. It also poses risks to sites of Aboriginal Heritage. With upland swamps clearly at the core of the areas hydrological functionality, longwall mining has the potential to negatively impact upon all of the SCA's management objectives and the undisturbed status of the area. Untried remediation methods (it is less than three years since BHPB informed the SCI that it had no knowledge of remediation methods for swamps) within the cluster of upland swamps in Dharawal SCA also have the potential to create disturbance on a large scale as does intensive monitoring.

Nor is mining under Dharawal (or within the Special Areas) compatible with the values placed by the community on the area. Both the SCI and Metropolitan PAC recorded that community values must be taken into account when developing mine plans. The intensive mining proposed under a reserve with exceptional richness in biodiversity and endemism, including numerous aquatic values, is not consistent with the value of the area.

Fauna species of Greater Southern Sydney listed by DECC as being affected by "subsidence due to longwall mining, leading to alteration of habitat"

Highest Conservation Priority				
Species	**Threatened Habitat**	**NSW Listing**	**Federal Listing**	**Coalfield**
Eastern bristlebird (Dasyornis brachypterus)	Upland swamp	Endangered	Endangered	Southern
Long-nosed potoroo (Potorous tridactylus)	Upland swamp	Vulnerable	Vulnerable	Southern
Southern brown bandicoot (Isoodon obesulus)	Upland swamp (possibly)	Endangered	Endangered	Southern Western

High Conservation Priority				
Species	**Threatened Habitat**	**NSW Listing**	**Federal Listing**	**Coalfield**
Broad-headed snake (Hoplocephalus bungaroides)	Rocky outcrops in sandstone woodlands	Endangered	Vulnerable	Southern Western
Large-eared pied bat (Chalinolobus dwyeri)	Subterranean roost sites	Vulnerable	Vulnerable	Southern Western
Large-footed myotis (Myotis adversus)	Sandstone caves and waterways	Vulnerable	n/a	Southern Western
Littlejohn's Tree Frog (Litoria littlejohni)	Upland swamps and other environments	Vulnerable	Vulnerable	Southern Western
Moderately High Conservation Priority				
Species	**Threatened Habitat**	**NSW Listing**	**Federal Listing**	**Coalfield**
Beautiful firetail (Stagonopleura bella)	Upland swamps	Protected	n/a	Southern Western
Turquoise Parrot (Neophema pulchella)	Upland swamps	Vulnerable	n/a	Southern Western
Moderate Conservation Priority				
Species	**Threatened Habitat**	**NSW Listing**	**Federal Listing**	**Coalfield**
Eastern pygmy-possum (Cercartetus nanus)	Upland swamps / sandstone woodland and heath	Vulnerable	n/a	Southern Western
Giant burrowing frog (Heleioporus australiacus)	Upland swamps	Vulnerable	Vulnerable	Southern Western
Red-crowned toadlet (Pseudophryne australis)	Upland swamps / sandstone woodland and heath	Vulnerable	n/a	Southern Western
Rosenberg's goanna (Varanus rosenbergi)	Upland swamps / sandstone woodland and heath	Vulnerable	n/a	Southern Western
Southern emu-wren (Stipiturus malachurus)	Upland swamps	Protected	n/a	Southern Western
Tawny-crowned honeyeater (Gliciphila melanops)	Upland swamps / sandstone w'land and heath	Protected	n/a	Southern
Highlands copperhead (Austrelaps ramsayi)	Highlands	Protected	n/a	Western Southern
Mainland tiger snake (Notechis scutatus)	Wetlands and swamps	Protected	n/a	Southern Western

Source: DECC 2007

SPECIAL AREAS

Government agencies and environment groups have been seeking greater protection for all rivers and significant water resources impacted upon or threatened by longwall mining. Mining in Special Areas poses an additional threat due to the relative lack of human interference and conservation values of the Woronora Plateau, and potential for water quality and quantity in supply areas to be compromised.

As the TEC and the Colong Foundation submitted to the Dendrobium COI in 2001, any loss of water is most serious in terms of the catchments' capacity to supply water, particularly in drought years and the loss of catchment integrity and biota. The catchments are home to 30 threatened animals and 26 threatened plants.

The Bulli Seam operations EA continues the practice of monitoring and remediating above avoidance. The significance of the Special Areas is acknowledged by the tenure granted to them and the strict rules governing entry upon the lands. As with Dharawal SCA, the risk assessment does not respond accordingly to the Special Area's importance as a water supply area nor its biodiversity values.

During the Metropolitan PAC, the Sydney Catchment Authority submitted preliminary data suggesting that water yield in the Waratah Rivulet catchment was declining as a result of mine subsidence. While acknowledging that "A lack of detailed baseline hydrological monitoring data is the main obstacle to adequately assessing the impact of mining on catchment hydrology", the assertion that a loss of surface flow is occurring in at least some watercourses was repeated by the Authority (Jankowski) at the Groundwater in the Sydney Basin Symposium in Sydney in August 2009.

STAGED APPROVAL

> "... there remains considerable uncertainty as to the extent and nature of subsidence impacts on natural features, the environmental consequences of these impacts, the significance of these consequences and the importance that the community places on these features." (SCI, p103)

The limited nature of baseline data (both general and in terms of subsidence impacts upon water quality and quantity) is widely acknowledged by all parties engaged in longwall issues and including the SCI (p118):

> "While substantial improvements in ecological and other baseline data (vegetation mapping, threatened species records, Aboriginal sites register) have been made over the past 15 years, the Panel is of the opinion that regional ecological and other baseline data is insufficient to provide a robust underpinning to localised environmental impact assessments."

This alone makes one-off approvals of 20 to 30 years a high-risk activity. If approvals are granted for mining within the application area, they should be staged. Initial approval to mine in the western section of the application area, while still paying respect to rivers and important natural features, would allow the proponent some years of mining without high-risk mining and untried remediation methods on the upland swamps of Dharawal SCA (Northcliff) and in the Special Area 2 and Area 3). While understanding the technical planning that goes into developing a mine plan, TEC recommends that this focuses entirely upon the western side of the application area at this stage.

Only staged approvals of no greater than five years would provide for a precautionary and adaptive approach in mine management.

A 30-year approval is also inappropriate in terms of climate agreements that will most likely be forged by Federal and/or International Governments in the coming years.

REMEDIATION

The proponent proposes to use knick point control, water spreading, sealing of bedrock fractures and injection grouting as remediation techniques in swamps. In 2007 the company took the following position into the SCI:

> "At this point there seems very little evidence that subsidence is having a significant impact to upland swamps and Illawarra Coal is unaware of any mitigation or rehabilitation requirements or activities that have been carried out on swamps. Options available for the mitigation and management of swamps include established remediation methodologies taking into account the specific functioning of the upland swamps." (BHP Billiton 2007)

Also made was a verbal admission to the SCI that the company knew of know way to remediate an upland swamp.

In regard to remediation the SCI Panel concluded:

> "The Panel is of the opinion that the remediation of subsidence impacts on natural features is in its infancy and, consequently, the level of risk currently associated with the successful remediation of natural features ranks as medium to high. A number of aspects warrant more detailed consideration and research in order to reduce this level of risk. These include:
>
> - all technical aspects of remediation, including matters relating to environmental impacts of grouting operations and grout injection products, life spans of grouts, grouting beneath surfaces which cannot be accessed or disturbed, techniques for the remote placement of grout, achievement of a leak-proof seal and cosmetic treatments of surface expressions of cracks and grouting boreholes; and
> - administrative aspects of remediation, in particular, procedures for ensuring the maintenance and security of grout seals in the long term." (SCI, p93)

It is entirely inappropriate that the techniques proposed for the remediation of upland swamps "be provided in the Upland Swamp RMPs to be prepared and included in Extraction Plans" (EA 6.4.2). The techniques are unproven and a rigorous examination is required of the proponent's ability to perform them given that under three years ago they were not in knowledge of how to remediate such a surface feature. The methodology lies at the top of the risk scale, especially considering the values attributed to upland swamps (mainly occurring in Dharawal SCA) by DECC, Ecological Australia et al.

CLIFFLINES

Damage to cliff lines has been significantly under-reported by the proponent at another of its mines in the Southern Coalfield. The EA (5-28) states that "Rock falls occur naturally, however subsidence has the potential to further reduce the stability of features such as cliff lines and increase the incidence of rock fall." It is of concern that this reporting (Dendrobium Area 1) informed further approvals where damage also took place. It would be appropriate for strict reporting conditions to include independent verification of end of panel reports that came in time to have relevant influence on further mining approvals.

COAL WASHERY

Indications by the proponent are that the company will seek alternatives to coal emplacement including a trial of placing the waste underground as has occurred at Metropolitan Colliery. However the clearing of 67ha of native vegetation suggests that

surface emplacement will continue to form by far the major part of dealing with the waste product.

This raises questions as to how much further the emplacement area at the headwaters of the Georges River will continue to be expanded given the increased output of coal from the combined mines.

Stronger commitments beyond that of trials should be required from the proponent as space at the West Cliff emplacement area is already known to be an issue and further clearing of native vegetation is inappropriate.

BRIEF REVIEW OF BULLI BCA

The BCA components of particular interest to TEC are the general conclusion and aspects of the choice modelling which we suggest inappropriately slant the conclusions.

1. Despite arguing that further decreases in mine life are virtually calamitous, the BCA concludes:

> "Cessation of the Project after 30 years of operation may lead to a reduction in economic activity. The significance of these Project cessation impacts would depend on:
> - The degree to which any displaced workers and their families remain within the region, even if they remain unemployed. This is because continued expenditure by these people in the regional economy (even at reduced levels) contributes to final demand.
> - The economic structure and trends in the regional economy at the time. For example, if Project cessation takes place in a declining economy the impacts might be felt more greatly than if it takes place in a growing diversified economy.
> - Whether other mining developments or other opportunities in the region arise that allow employment of displaced workers.
>
> Given these uncertainties it is not possible to foresee the likely circumstances within which Project cessation would occur. It is therefore important for regional authorities and leaders to take every advantage from the stimulation to regional economic activity and skills and expertise that the Project brings to the region, to strengthen and broaden the region's economic base." (p61, Gillespie BCA)

If in order to further protect environmental assets the mine life and approval is shortened then the above statement similarly applies. Economic restructuring can take place over a period of 5-7 years as shown by the closure of other industry facilities such as the BHP steel mill in Newcastle. We also note that the NSW government is sponsoring a green economy study of the Illawarra with a view to diversifying the region towards green industry and jobs.

2. The choice modelling study contains significant biases.

2.1 "It was clear from the focus group sessions that the social attribute (length of time that the mine provides 1,170 jobs) was an important attribute. While many participants identified that they were trying to choose some balance between environmental impacts, life of the mines and what they can afford to pay, others considered the length of the time that the mine provides 1,170 jobs as their over-riding concern. Furthermore, when directly questioned about the fact that in some options the shortening of the mine life would occur a long time into the future, people still considered it to be important. Some respondents

identified that they did not want the life of the mines to be decreased and that jobs in the future were still important to them." (p11, CM Study)

The overriding answer from participants was that a 'balance' should be arrived at; however this part of the report in our view over-plays the jobs aspect. More effort should have been made to arrive at a view of balance. Nevertheless this would have been difficult given the bias in some of the key information presented to the participants as shown below.

2.2 "There is no loss of flow downstream of where the water re-surfaces. An independent Government inquiry found that there is no evidence that the quality and quantity of Sydney's water supply is changed by mine subsidence effects." (p3 Questionnaire)

This is not an accurate portrayal of recent findings contained in presentations and submissions by the Sydney Catchment Authority (Jankowski, Metropolitan PAC et al).

2.3 "40 km of streams (out of a total of 1,500 km of similar streams in the Southern Coalfield) have been impacted by mine subsidence effects above the two mines – 150 km of streams have been impacted by all eight mines in the Southern Coalfield. (p4)

This part of the survey is to provide 'context'. However it does not say how important the streams to be affected are, treating all 'streams' as equal. Nor does it include important wetlands areas in particular stream headwaters. This is inappropriate.

Further there is an implication that a pristine water catchment is optional. Additional information on the extreme efforts management agencies go to protect the area and allied legal penalties for damage would have given a better picture of the irreplaceability and value, accorded by the community, to the streams.

2.4 "If mining continues as currently planned, it is predicted that in 31 years time a total of 50 Aboriginal heritage sites (out of a total of up to 15,000 Aboriginal heritage sites in the Southern Coalfield) will experience some impact from subsidence or from surface infrastructure above the two mines – 300 Aboriginal sites will be impacted by all eight mines in the Southern Coalfield in 31 years time." (p5)

Our comments in relation to 2.3 apply also. How important are the sites? And is there a general view that we should destroy such sites?

2.5 "Government decisions to reduce the environmental impacts of the two mines (e.g. mine closure or changes to permitted impacts) would reduce coal production and less money would be received by the State Government from royalties and taxes. This could reduce the level of public services provided by Government for the households of NSW. To reduce the environmental impacts of the two mines and keep the current level of public services that you receive from the State Government each year, every household in NSW would have higher costs (i.e. you would need to make an additional once-off payment to the State Government). This payment would be to replace the royalties and taxes otherwise paid by the mines and would be in the form of an environmental levy. The size of the once-off payment you would make, and the type and extent of reductions in environmental impacts, would depend on the government decisions made for the two mines." (p8)

This section is extremely speculative and intended to alarm the respondent - reducing the level of public services is a 'could' but the remedy is a 'would'. In fact over a reasonable period of time a government can either improve efficiency or some existing expensive programs may complete their mission freeing up resources. Governments may decide to increase tax rates on higher incomes or specialised products and thus

not affect all people (i.e. not 'every household'). While the intent may be to obtain a financial evaluation of the environment, the alarmist nature of the information makes people less inclined to be generous to the environment.

REFERENCES

BHP Billiton, 2007, Independent Inquiry into NSW Southern Coalfield, Illawarra Coal Submission

Department of Environment and Climate Change (NSW), 2007, Terrestrial Vertebrate Fauna of the Greater Southern Sydney Region

Department of Natural Resources (NSW), Facts About Wetlands, http://www.dnr.nsw.gov.au/water/wetlands_facts_types_more.shtml

Ecological Australia, 2009, Prioritisation of High Conservation Status Mainland Islands

J Jankowski (Sydney Catchment Authority), 2009, Keynote Paper: Hydrological Changes due to Longwall Mining in the Southern Coalfield, New South Wales, Australia

New South Wales Department of Planning, 2008, Impacts of Underground Coal Mining on Natural Features in the Southern Coalfield – Strategic Review

New South Wales National Parks and Wildlife Service, 2006, Dharawal Nature Reserve and Dharawal State Conservation Area – Plan of Management

New South Wales Planning Assessment Commission, 2009, The Metropolitan Coal Project – Review Report

Parliament of New South Wales, 1974, National Parks and Wildlife Act 1974

Total Environment Centre, 2007, Supplementary Submission to the Independent Expert Panel – Inquiry into NSW Southern Coalfield