

METROPOLITAN COAL PROJECT



Peabody

HELENSBURGH COAL



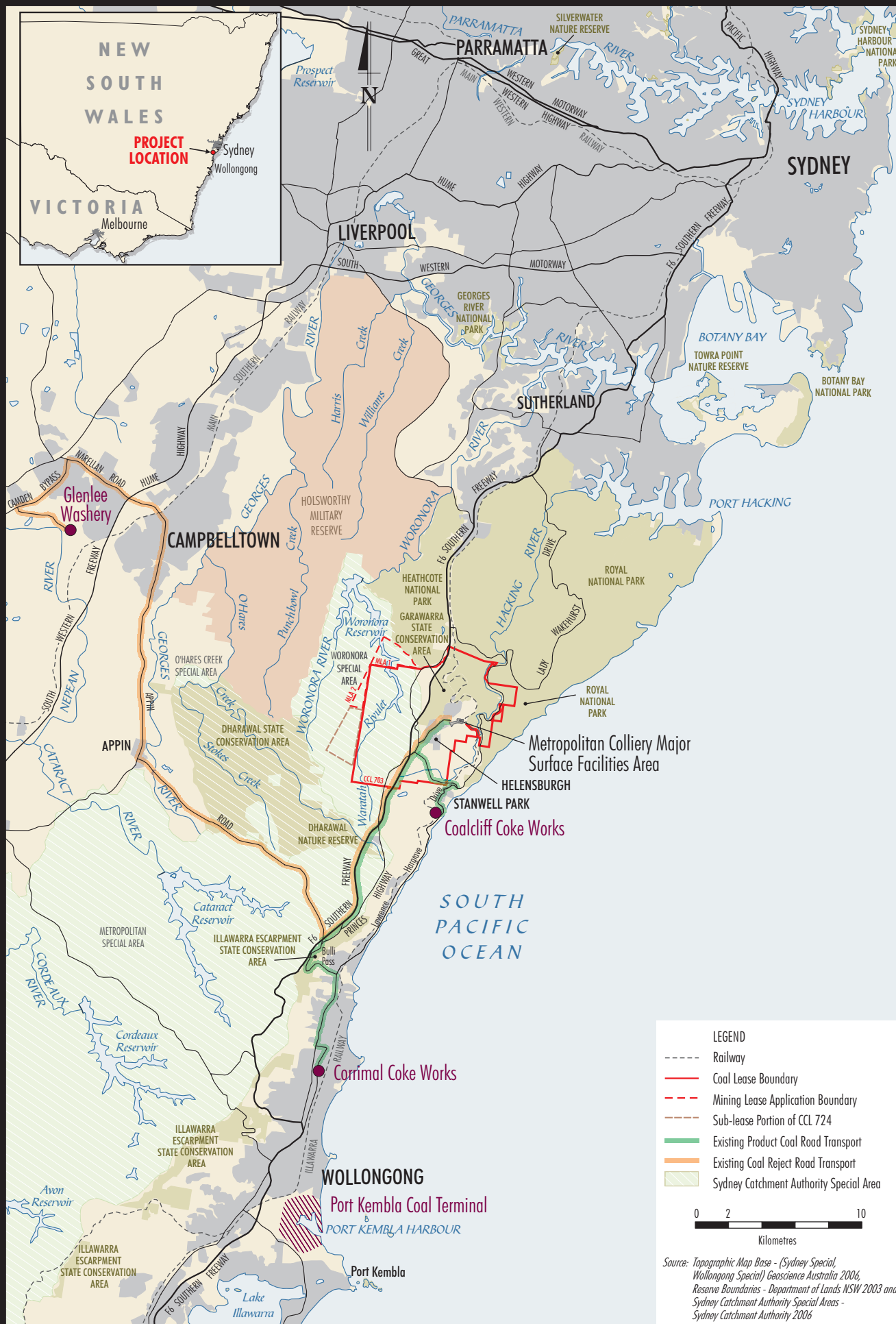


FIGURE 1

This document provides an overview of the proposed Metropolitan Coal Project (the Project) and accompanying Environmental Assessment (EA).

The Metropolitan Colliery

The Metropolitan Colliery is an underground coal mining operation located near Helensburgh, approximately 30 kilometres north of Wollongong in New South Wales (Figure 1). Metropolitan Colliery is owned and operated by Helensburgh Coal Pty Ltd (HCPL), a wholly owned subsidiary of Peabody Pacific Pty Limited.

The Metropolitan Colliery is one of the earliest established and longest running coal mining operations in Australia, with history dating back to the 1880s.

Coal extracted from the underground longwall mining operations is transferred by conveyor to the Major Surface Facilities Area in Helensburgh. The Metropolitan Colliery currently produces up to approximately 1.5 million tonnes per annum (Mtpa) of hard coking and semi-hard coking product coal that is used to make steel. The majority of product coal is transported by train to the Port Kembla Coal Terminal (Figure 1) for shipping to domestic and overseas customers. A small proportion of the product coal is also transported by truck to the Corrimall and Coalcliff Coke Works (Figure 1).

Coal reject material (i.e. waste rock material removed from the coal during processing at the Major Surface Facilities Area) is transported by truck to the Glenlee Washery (Figure 1).

Historical Photograph - Metropolitan Colliery



Metropolitan Colliery Major Surface Facilities Area



Project Overview

The Project would involve the continuation of underground mining operations at the Metropolitan Colliery supported by the Metropolitan Colliery's surface facilities.

The main activities associated with development of the Project would include (Figures 2 and 3):

- on-going surface and underground exploration activities in the Project Underground Mining Area and surrounds;
- continued development of underground mining operations in the Project Underground Mining Area;
- upgrades of the existing mining and materials handling systems (e.g. longwall machinery and conveyors) to facilitate an increased coal production rate;
- upgrades of the Coal Handling and Preparation Plant to facilitate increased production of washed coal and to progressively attenuate noise emissions;
- continued transport of coal reject by road to the Glenlee Washery;
- continued transport of product coal by road to Coalcliff and Corrimall Coke Works;

- construction of a coal reject paste plant and associated systems to facilitate underground backfilling of coal reject materials as an integrated component of the longwall mining operation;
- train loading and train movements associated with the transport of product coal to Port Kembla Coal Terminal 24 hours per day, seven days per week;
- surface access that is required for environmental monitoring and management;
- upgrades and/or extension of the existing supporting infrastructure systems; and
- extension of the life of the Metropolitan Colliery by approximately 23 years.

It is anticipated that the operational workforce of 320 people would be maintained during the Project with increases in efficiency allowing the proposed increases in coal production. During construction/development activities an additional workforce of up to 50 people would be required.

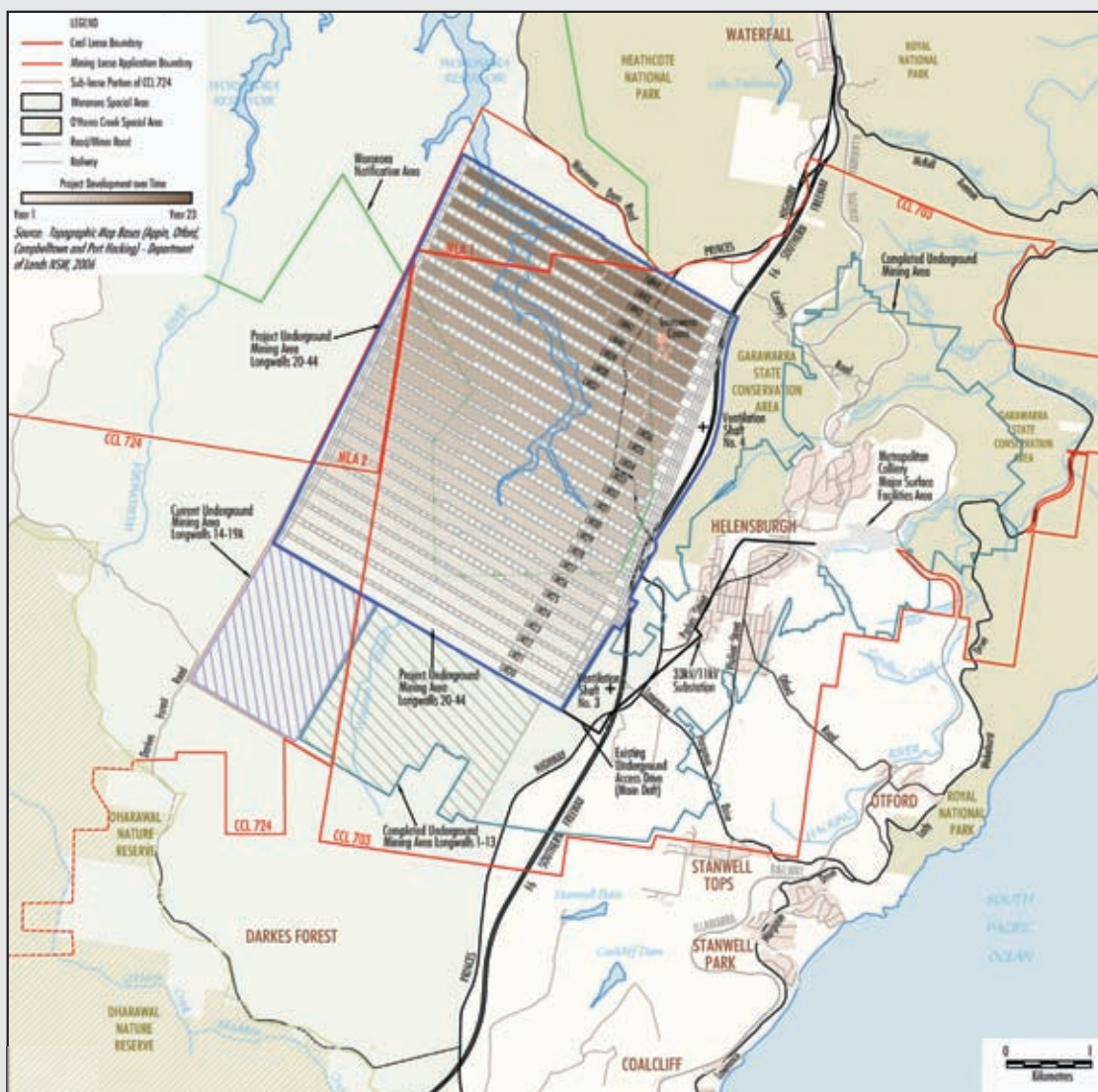


FIGURE 2

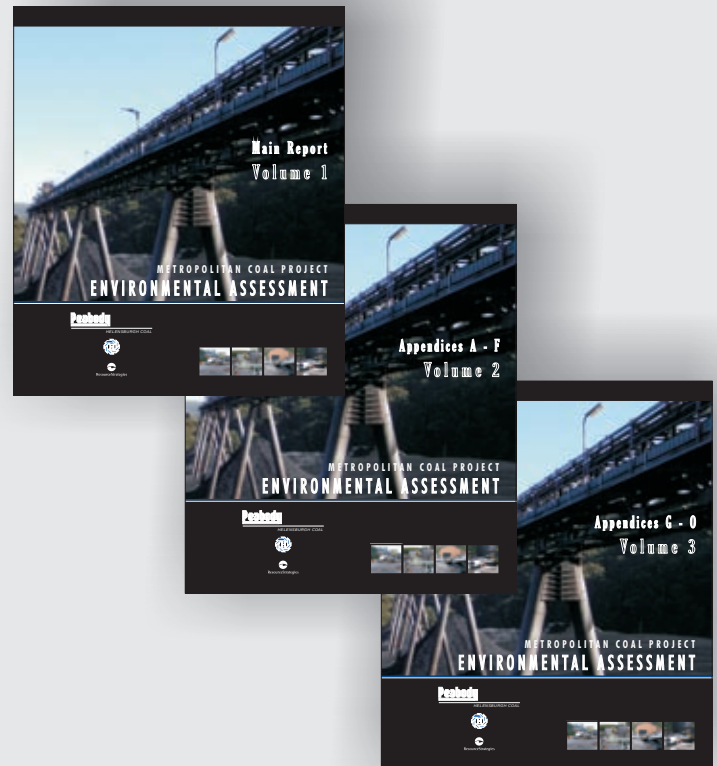
Environmental Assessment Process and Documents

The Project was determined to be a “Major Project” to which Part 3A of the *Environmental Planning and Assessment Act, 1979* (EP&A Act) applies.

The Environmental Assessment (EA) has been prepared to accompany a Project Application made for the Project, in accordance with Part 3A of the EP&A Act. Under the provisions of the EP&A Act, the Director-General of the Department of Planning prepared “Director-General’s Environmental Assessment Requirements” for the Project specifying the key areas to be addressed in the EA.

The EA has been prepared in accordance with the Environmental Assessment Requirements. The EA includes:

- an executive summary;
- a description of the existing Metropolitan Colliery and the proposed Project activities;
- a risk assessment process to identify key issues for consideration in the EA;
- assessment of key issues relating to subsidence, soil and water, biodiversity, heritage, noise, air quality, greenhouse gas, transport, waste, hazards, rehabilitation, social and economic impacts;
- a statement of commitments, outlining the proposed environmental management and monitoring measures; and
- a conclusion justifying the Project on economic, social and environmental grounds.



A wide range of environmental and engineering studies were undertaken to support the development of the Project EA.

These studies describe the character of the existing environment, assess the potential environmental, economic and socio-economic effects of the Project and include management strategies to avoid, minimise or offset potential effects.

Subsidence

Subsidence is the vertical and horizontal movement of the land surface as a result of the extraction of underlying coal. A subsidence assessment was prepared for the Project and includes assessment of the potential subsidence effects on the natural and built environment. The studies discussed below consider the potential environmental consequences of these subsidence effects.

As the coal seam is mined at a minimum depth of 400 m from the ground surface (Figure 4), there would not be connective cracking from the mined seam to the surface. In other words, water does not leak from the surface to the mine.

Prior to the commencement of longwall mining and periodically during the life of the Project, Subsidence Management Plans would be developed in accordance with the requirements of the relevant government authorities. The Subsidence Management Plans would document the monitoring and management measures to be employed during mining operations.



Groundwater

Comprehensive groundwater studies were undertaken by recognised experts as part of the EA. Due to the significant depth of the coal seam, no loss of groundwater yield to Woronora Reservoir is expected.

A groundwater assessment was undertaken for the Project. Data supports the existence of three separate groundwater systems including a Perched Groundwater System (typically less than 20 m below the ground surface), a Shallow Groundwater System (typically less than 100 m below the ground surface) and a Deep Groundwater System (typically more than 100 m below the ground surface). These three groundwater systems are considered to be separate with very little effective groundwater flow between them.

A groundwater monitoring system would be implemented as part of the Project Environmental Monitoring Programme.

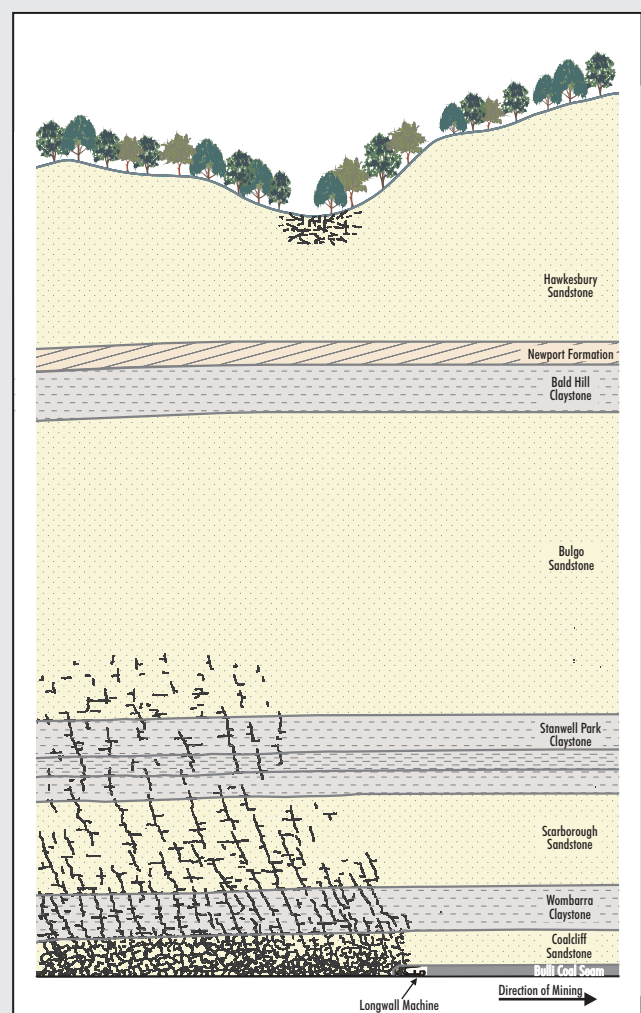
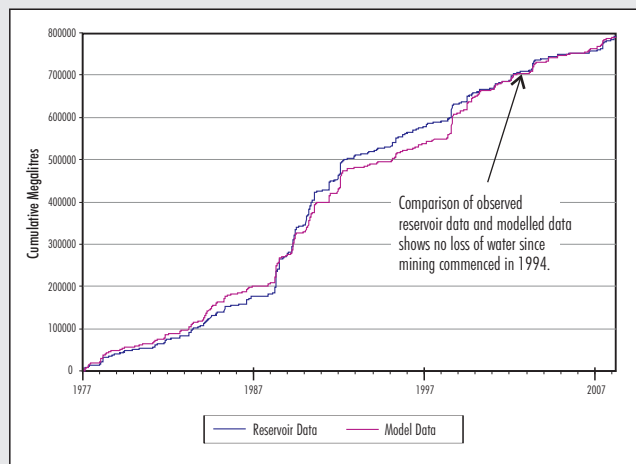


FIGURE 4

Surface Water

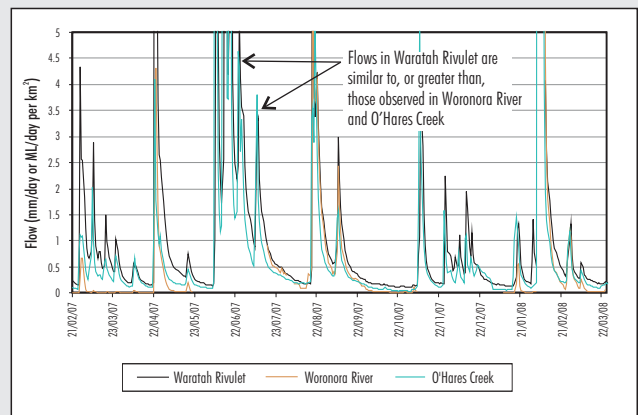
A surface water assessment was undertaken for the Project and was peer reviewed by an internationally recognised hydrological expert. The Project is situated on the Woronora Plateau, predominantly within the Woronora Reservoir catchment. The Project would include underground mining beneath the Waratah Rivulet and the upper reaches of the Woronora Reservoir.

Analysis of 30 years of data from Woronora Reservoir collected by the Sydney Catchment Authority indicates that past mining at the Metropolitan Colliery has had no effect on the quantity of water in the Woronora Reservoir.



Cracking associated with mine subsidence has resulted in localised and temporary changes (spikes) in some water quality parameters (e.g. iron). There has been no measurable effect on water quality in the Woronora Reservoir.

Subsidence predictions for the Project indicate that cracking may occur in some areas to the extent that diversion of a portion of stream flow occurs (i.e. a portion of the flow occurs through the rock below the stream bed). These flows return to the surface downstream of the cracks and flow into the Woronora Reservoir. Analysis of the Sydney Catchment Authority's data from Waratah Rivulet and nearby streams that have not been affected by mine subsidence (Woronora River and O'Hares Creek) confirm that there is no evidence of loss of low flows in Waratah Rivulet that might be attributed to the effects of underground mining (i.e. the flows return downstream of mining).



A surface water monitoring programme would be developed for the Project and would be detailed in the Project Environmental Monitoring Programme.

HCPL has successfully completed restoration of a rock bar on Waratah Rivulet that indicates cracking and pool behaviour can be restored following mining. A stream restoration and adaptive management approach will be adopted for the Project as described on pages 12-13.

Pool on Waratah Rivulet Following Rock Bar Restoration Trial



Aquatic Ecology

An aquatic ecology assessment was conducted for the Project. Two native fish (Long-finned Eel and Australian Smelt) and the introduced Mosquito Fish were recorded. Fish are not abundant in Waratah Rivulet due to the presence of the Woronora Dam downstream which acts as a significant barrier to fish passage. No threatened aquatic species were recorded.

The diversion of a portion of stream flow as a result of subsidence induced cracks has the potential to have localised effects on aquatic habitats. The extent of such effects have been observed to reduce with time.



Terrestrial Flora and Fauna

Baseline terrestrial flora surveys undertaken for the Project identified a total of 601 flora species, comprising 528 native and 73 introduced species.

Four threatened flora species were recorded in the Project Underground Mining Area and surrounds. Ten species listed as Rare or Threatened Australian Plants were recorded during the baseline flora surveys.

Habitat types identified in the Project Underground Mining Area and surrounds include forest, woodland, heath and mallee, riparian and upland swamp.

A total of 140 fauna species were recorded during the Project baseline fauna surveys, including 17 amphibian species, 19 reptile species, 77 bird species and 27 mammal species. Five introduced

species and thirteen threatened species were recorded in the Project Underground Mining and surrounds.

Mine subsidence would not significantly affect the diversity or vigour of terrestrial flora and fauna in the Project area and surrounds.

The Project would include minimal vegetation clearance. At any one time some small areas are likely to be disturbed, while previously disturbed areas would be in various stages of natural regeneration/rehabilitation.

A Flora and Fauna Management Plan would be developed for the Project that would detail the mitigation, management and monitoring measures to be implemented, including measures to maintain or improve the biodiversity values of the surrounding region in the medium to long-term.



Aboriginal Heritage

A survey and assessment of Aboriginal heritage within the Project Underground Mining Area and surrounds was conducted in conjunction with local Aboriginal groups. A total of 188 Aboriginal heritage sites were identified during the surveys and inspections, including sandstone overhangs and open sites.

Potential impacts of mine subsidence on Aboriginal heritage sites include the cracking of sandstone and (where cracking coincides with a sandstone overhang) the potential for isolated rock fall.

It is expected that the majority of identified Aboriginal heritage sites would experience no significant change, particularly when compared to natural weathering processes unrelated to mining.

Surface infrastructure will be designed to avoid direct impacts to Aboriginal heritage sites. An Aboriginal Cultural Heritage Management Plan will be developed in consultation with the Aboriginal community and the Department of Environment and Climate Change. The Aboriginal Cultural Heritage Management Plan

would be active throughout the life of the Project and be flexible to incorporate on-going outcomes from monitoring, analysis and consultation.



Non-Aboriginal Heritage

A non-Aboriginal heritage assessment was undertaken for the Project. Seventeen places and items of heritage significance were identified at the Metropolitan Colliery.

A Conservation Management Plan would be developed for the Metropolitan Colliery. The Conservation Management Plan would provide guidance for management of Metropolitan Colliery heritage items during the detailed design, construction and operational phases of the Project.

In addition, non-Aboriginal heritage items were identified above or in close proximity to the Project Underground Mining Area, including the Garrawarra Centre (Figure 3).

It is predicted that there would be negligible impact on heritage values (historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance) of the sites in the vicinity of the Project Underground Mining Area (or their settings) as a result of the Project.

Specific monitoring measures for non-Aboriginal heritage sites potentially impacted by the Project underground mining (e.g. the Garrawarra Centre) would be developed and reported to the relevant authorities.



Noise

A noise impact assessment has been undertaken for the Project. The modelling of existing Metropolitan Colliery and Project noise emissions indicates that no privately owned residences would experience an increase in operational noise as a result of the Project. At the majority of private residences that are located in close proximity to the Major Surface Facilities Area, the Project is predicted to progressively provide significant operational noise reductions in comparison to the existing noise emissions of the Metropolitan Colliery.

Predicted Project amenity noise emissions are below the relevant assessment criteria for all non-residential receptors (i.e. Holy Cross Catholic Church, Holy Cross Primary School and nearby public recreation areas) surrounding the Major Surface Facilities Area.

Pollution Reduction Programmes under the existing Metropolitan Colliery Environment Protection Licence No. 767 provide effective

mechanisms for progressive improvement of operational noise performance at the Metropolitan Colliery. The existing and future Pollution Reduction Programmes would inform the noise management measures for the Project.



Air Quality

An air quality impact assessment has been undertaken for the Project. Dust emissions from the Project are predicted to remain below applicable criteria at all receivers.

The Project air quality monitoring programme would incorporate a real-time dust monitoring system. The results of the air quality monitoring would be used to optimise air quality controls and would be reported to relevant authorities.

A range of controls would continue to be employed by HCPL to reduce air quality emissions from the Major Surface Facilities Area including engineering controls (e.g. covering/enclosing conveyors and enclosing transfer points) and operational controls (e.g. varying operations when adverse weather conditions occur).



Transport

A traffic assessment was conducted for the Project. The majority of product coal is transported by train to the Port Kembla Coal Terminal (Figure 1). The increase in coal production and the requirements of train scheduling indicate that the Project would require 24 hour train loading up to seven days per week.

The Project would not involve any significant changes to the annual tonnage of product coal trucked to the Corrimal Coke Works and Coalcliff Coke Works or coal reject trucked to the Glenlee Washery.

Project construction activities would, at their peak, increase traffic flows to the Metropolitan Colliery. Outside of Helensburgh the contribution to total traffic would be negligible. With the additional Project traffic, the Metropolitan Colliery would continue to make only a small contribution to total traffic volumes on the existing haulage routes.



Socio-Economics

Benefit cost analysis, regional economic assessment and an employment, population and community infrastructure assessment were undertaken for the Project. The benefit cost analysis indicated that the Project would result in a total net quantified production benefit in the order of \$592 million (M) and a net benefit of approximately \$436M.

The construction and operation of the Project would stimulate demand in the regional and New South Wales economy leading to increased business turnover in a range of sectors and increased employment opportunities. The contribution of the Project to the regional economy is estimated to be in the order of \$372M in annual direct and indirect regional output of business turnover, \$136M in annual direct and indirect regional value added, \$56M in annual household income, and 700 direct and indirect regional jobs.

Some additional flow-on (or indirect) employment is expected as a result of the Project compared to the current Metropolitan Colliery operation. This greater flow-on employment arises because the Project involves greater levels of operational expenditure in the region than the current operation.

The population associated with additional flow-on employment is small in the context of annual population growth of the region and no requirement for additional investment in community services and facilities infrastructure would be anticipated.



Consultation

HCPL is committed to an open and constructive consultation programme, which aims to:

- identify interested parties and stakeholders;
- inform government and other stakeholders of the nature and status of the Project by presenting information in a number of formats and venues, to facilitate a clear understanding of the Project;
- identify issues of concern to stakeholders so as to give these appropriate attention; and
- establish dialogue between HCPL and government and community stakeholders that would be on-going, should the Project be approved.

A range of Commonwealth, State and Local Government agencies were consulted during the preparation of the EA.

Initial Project briefings with Government agencies commenced in the second half of 2006. In order to facilitate information exchange between key State Government agencies and HCPL, working groups were established at both the technical and executive levels. Information exchange and the progressive presentation and discussion of baseline data and assessment findings from the key environmental studies occurred during the preparation of the EA and supporting appendices.

HCPL formed a Community Reference Group for the Metropolitan Colliery in May 2008. The Community Reference Group comprises thirteen members from the local community. The Community Reference Group provided a mechanism to discuss the existing Metropolitan Colliery, the Project environmental assessment process and key findings of the air, noise, surface water, groundwater, Aboriginal heritage, non-Aboriginal heritage, transport assessments

and rock bar restoration. The Community Reference Group has also acted as a forum for issues of interest to the Community Reference Group participants and/or the wider community to be raised.

HCPL has also consulted with surrounding private landholders, Aboriginal stakeholders and a range of agencies with an interest in infrastructure in the Project area.

Peabody Pacific Pty Ltd has a website that provides Project information and contact details for the Metropolitan Colliery and can be accessed at:

<http://www.peabodyenergy.com.au/nsw/metropolitan-mine.html>

Southern Coalfield Inquiry

The NSW Government announced a strategic inquiry into underground mining in the Southern Coalfield on 6 December 2006. Approximately 56 written submissions were made to the Southern Coalfield Inquiry by a range of public, non-Government and Government agencies and interest groups. The Southern Coalfield Inquiry provided an opportunity for a range of stakeholders with an interest in mining to express their views and raise issues with underground mining in the region. The key issues raised in the Southern Coalfield Inquiry and the findings and recommendations of the Independent Expert Panel as described in the Southern Coalfield Panel Report have been considered in the EA.



Stream Restoration

Mine subsidence has affected some rock bars and associated pools along the Waratah Rivulet. These effects have included shallow cracking (i.e. less than 20 m in depth) of rock bars leading to some reductions in the persistence of pool water levels. Monitoring of Waratah Rivulet indicates that the extent of these effects is temporary with significant natural infilling of cracks occurring during high flow events.

In addition, HCPL conducted a restoration trial at a rock bar known as WRS4 on the Waratah Rivulet (Figure 5) in consultation with the Sydney Catchment Authority. The objective of the trial was to investigate the effectiveness of Polyurethane (PUR) grouting products and associated injection methods in reducing the hydraulic conductivity of the fractured rock mass. The restoration trial was conducted from March to May 2008.

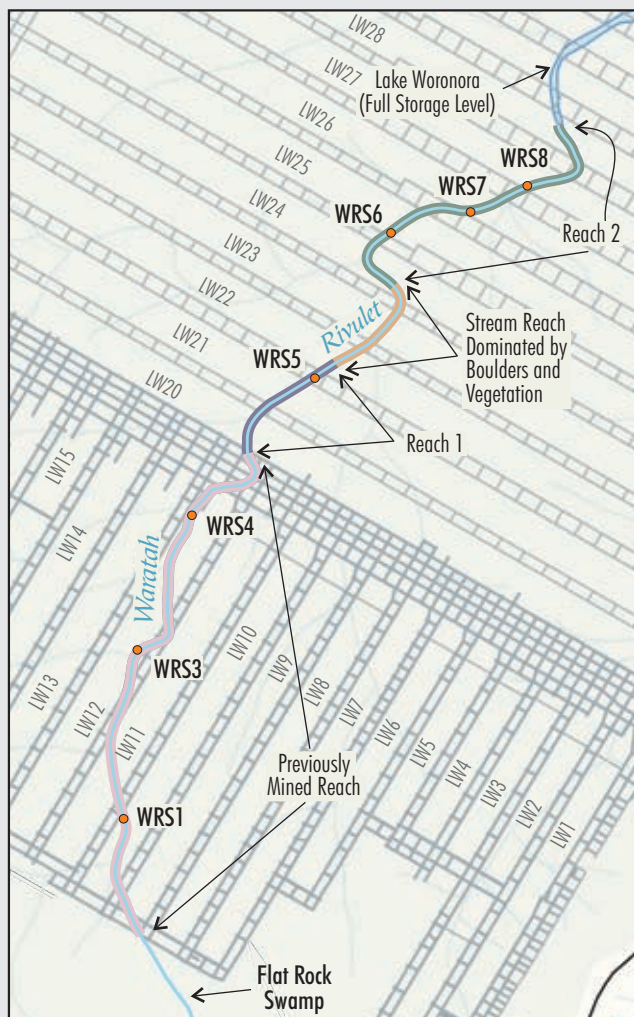
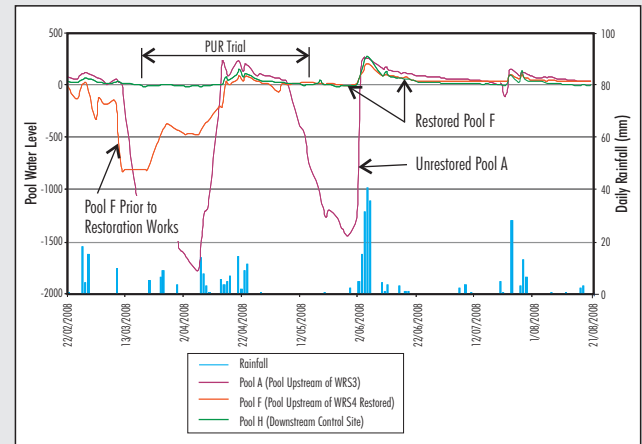


FIGURE 5

Successful restoration of the WRS4 rock bar was confirmed through measurement of a substantial decrease in hydraulic conductivity and further evidenced by the return of normal water flows over the rock bar and pool water level responses in the pool behind the rock bar (Pool F).



PUR Grouting Shown in Drill Core



HCPL is committed to undertaking restoration of rock bars WRS5, 6, 7 and 8 (Figure 5), in the case that mine subsidence results in a measureable increase in rock bar leakage rates at these locations. Restoration works would be undertaken at rock bars WRS5, 6, 7 and 8 following each successive longwall panel if required to restore pools upstream of these rock bars.

Adaptive Management

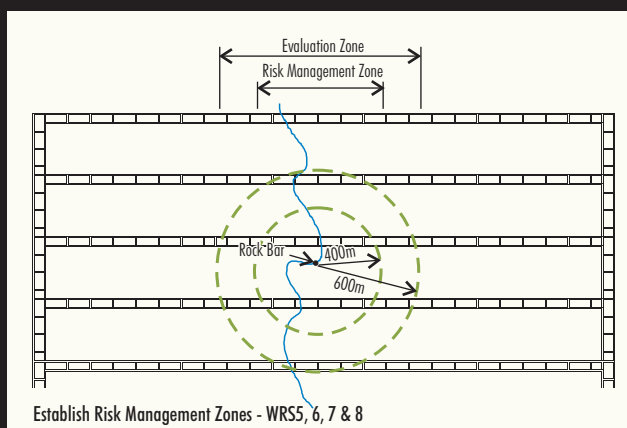
HCPL proposes an adaptive management approach to ensure that the authorised level of effect to rock bars WRS5, 6, 7 and 8 (Figure 5) as a result of the Project is not exceeded.

A Waratah Rivulet Management Plan would be developed in consultation with the relevant authorities to reflect the adaptive management approach. An Evaluation Zone and Risk Management Zone would apply to each longwall panel that is within 600 m and 400 m respectively of rock bars WRS5, 6, 7 and 8. Each time a longwall panel enters the 600 m Evaluation Zone, the requirement for a response and/or contingency measure would be evaluated.

As mining progresses, subsidence and environmental monitoring would be undertaken to validate that actual effects are within that authorised by the Project Approval. If subsidence effects are trending so as to potentially exceed that authorised by the Project Approval and/or the implementation of restoration commitments is not performing adequately (including the time scale within which they are undertaken), then the adaptive management approach would lead to various responses.

In the event that monitoring data indicates that rock bar restoration works have not met the predetermined performance criteria then restoration works would be repeated by HCPL until such time as the works are deemed to be successful.

In the event that stream restoration performance criteria are not achieved (including the timeframe within which the works are completed) then modifications to the longwall extraction geometry (contingency measures) would be implemented for subsequent longwall panels so as to reduce the cumulative subsidence effect (achieved by options including reduced thickness of seam mined, narrowed longwall width, and/or longwall set-backs from the rivulet).



Rehabilitation

The Project rehabilitation programme would include:

- the progressive rehabilitation of minor Project surface disturbance areas; and
- the rehabilitation of surface disturbance areas remaining at the cessation of the Project (e.g. the Metropolitan Colliery Major Surface Facilities Area).

Further, rehabilitation may be undertaken to remediate mine subsidence effects (e.g. surface cracking and erosion) on other natural surface features.

Monitoring of rehabilitation areas would be conducted on a regular basis to confirm that vegetation is establishing and to determine the need for any maintenance and/or contingency measures.



Compensatory Measures and Ecological Initiatives

A range of mitigation, management and monitoring measures would be implemented for the Project to maintain or improve the biodiversity values of the surrounding region in the medium to long-term. These measures are described in the EA and include:

- research into subsidence effects on streams;
- research on techniques for remediating stream bed cracking;
- research comparing interventionist remediation with natural processes of remediation;
- research into non-conventional subsidence effects;
- financial contribution towards rehabilitation and revegetation works in the Woronora Catchment; and
- financial contributions to pest and weed control programmes.

