



WHAT HAPPENED TO THE WARATAH RIVULET?

A CASE STUDY OF THE FAILURE TO PROTECT STREAMS
FROM LONGWALL MINING



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01

In 2006 Total Environment Centre (TEC) discovered that broad scale damage had occurred to yet another waterway within Sydney's metropolitan drinking catchment due to underground coal mining. This was hardly surprising as the issue of longwall coal mining within the catchments is now more than a decade old and remains unresolved.

Mining Minister Ian MacDonald said that he was aware of the situation and that the river was being 'repaired', while Peabody Energy stated that they had 'not detected any reductions in quantity or problems with water quality downstream of that section of Waratah Rivulet that is undermined by Metropolitan Colliery'.

These have become the standard responses of the Minister and mining companies with each new instance of longwall damage to rivers. Other typical responses include blaming the 'drought' or that 'the lost water is coming back downstream'.

Total Environment Centre made an application under NSW Freedom of Information (FOI) legislation to the Sydney Catchment Authority (SCA) in an effort to discover the real situation. The search found that:

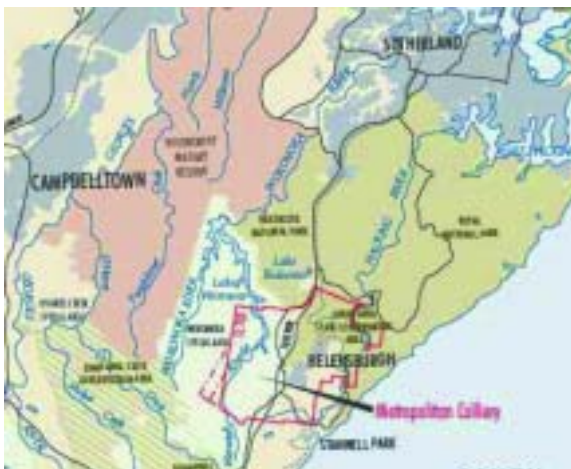
- the feeder swamp for the Rivulet "collapsed" and "failed" in 2004
- the riverbed and pools cracked and drained as LWs 11, 12 and 13 were mined up to 2006, along with the watercourse tilting to the east resulting in severe bank erosion

- as far back as 2004 the SCA urged the NSW Government to take a 'precautionary approach' in preventing further mining damage to the Waratah Rivulet
- senior environmental scientists at the SCA believe the damage likely to have a 'significant effect on water yields' for the Woronora Dam
- plans submitted to the NSW Government by the mining company in 2006 were approved despite the SCA's opinion that they were 'deficient'
- the mining company's monitoring and remediation programs are failing
- in 2006 the SCA took the position that future mine plans should 'avoid mining under significant streams' in the Woronora catchment

This dossier demonstrates that current mining policy is failing to protect Sydney's drinking water catchments. It also highlights the contradictions between public statements made by the NSW Government and coal mining companies, and the internal findings and recommendations to the government by the agency assigned the responsibility of protecting our water catchments.

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The Waratah Rivulet is located just to the west of Helensburgh and flows into the Woronora Dam from the south. Along with its tributaries, it makes up about 29% of the Dam catchment. The Dam provides drinking water to both the Sutherland Shire and the northern suburbs of Wollongong. The entire rivulet lies within the Woronora Special Area and is managed by the Sydney Catchment Authority (SCA). There is no public access to the Special Areas without the express permission of the SCA.



The Metropolitan Colliery mining lease

Metropolitan Colliery extracts coal from under the Woronora Special Area. Excel Coal operated the mine until October 2006 when Peabody Energy, the world's largest coal mining corporation acquired it. The method of coal extraction is longwall mining. Longwall mining is a comparatively recent form of coal extraction and has only been taking place at the Metropolitan Colliery since 1995.

The area being mined is upstream of the Woronora Dam and was described in the 1999 Healthy Rivers Commission's Independent Inquiry into the

Woronora River System as being in 'largely pristine' condition.

In 2005 the NSW Scientific Committee declared longwall mining to be a key threatening process. The Waratah Rivulet was listed in the declaration along with numerous other rivers, creeks, swamps and aquifers as being damaged by this form of underground coal mining.

In September 2006, it was alleged serious damage to the Waratah Rivulet had taken place. An inspection was organised through the SCA to take place on the 24th of November.

On November 23rd, TEC and the Colong Foundation met with Peabody Energy at the mining company's request. They had been informed of the forthcoming inspection and wished to tell TEC about their operation and future mining plans. Along with a PowerPoint presentation, the company representatives stated the situation conservation groups would see at the Rivulet would be shocking, and that water had drained from the Rivulet but was reappearing further downstream closer to the dam.

The inspection took place the next day and was attended by officers from the SCA and the then Department of Environment and Conservation (now DECC), TEC, Colong Foundation, Rivers SOS and two independent experts on upland swamps and sandstone geology.

It covered the length of the Rivulet that flows over the longwall panels. Although similar waterways at a similar elevation in the area were flowing healthily at the time, e.g. Heathcote Creek, the bed of the Waratah Rivulet was bone dry for much of its length. The hundreds of cracks in the sandstone streambed were typical of those caused by longwall mining in the Southern Coalfield. The SCA officers indicated that at one series of pools, water levels had

02 A BRIEF HISTORY

dropped about 3m. There was also anecdotal evidence suggesting the Rivulet has ceased to flow over places where it had never previously been known to have stopped.

The whole watercourse above the longwall panels appeared to have literally tilted to the east as a result of mining subsidence. Attention was drawn to once flat rock ledges that are now sloped. Iron oxide stains in the streambed typically associated with longwall damage were present. The SCA also stated that they did not know whether water flows were returning further downstream - their views contradicting those of Peabody Energy. There was also evidence of failed attempts at remediation with a distinctly different coloured sand having washed out of cracks to sit on the dry riverbed or in pools.

Flat Rock Swamp, at the southernmost extremity of the longwall panels, was undermined. It is the main source of water recharge or the feeder swamp for the Waratah Rivulet. At the time, it appeared highly likely that the swamp too had been damaged and was also sitting on a tilt.

The longwall panels that have damaged the Rivulet are LWs 8-13. A *Subsidence Management Plan (SMP)* for LWs 14-17 was recently approved by the

Department of Primary Industries (DPI) and LW 15 is currently being mined. No safety buffer is provided for important inflow streams to the Waratah Rivulet. The SMP states that land above LWs 8-13 had subsided about 1.3m on average and that there has been no significant impact upon net flow or water quality. This is disputed.

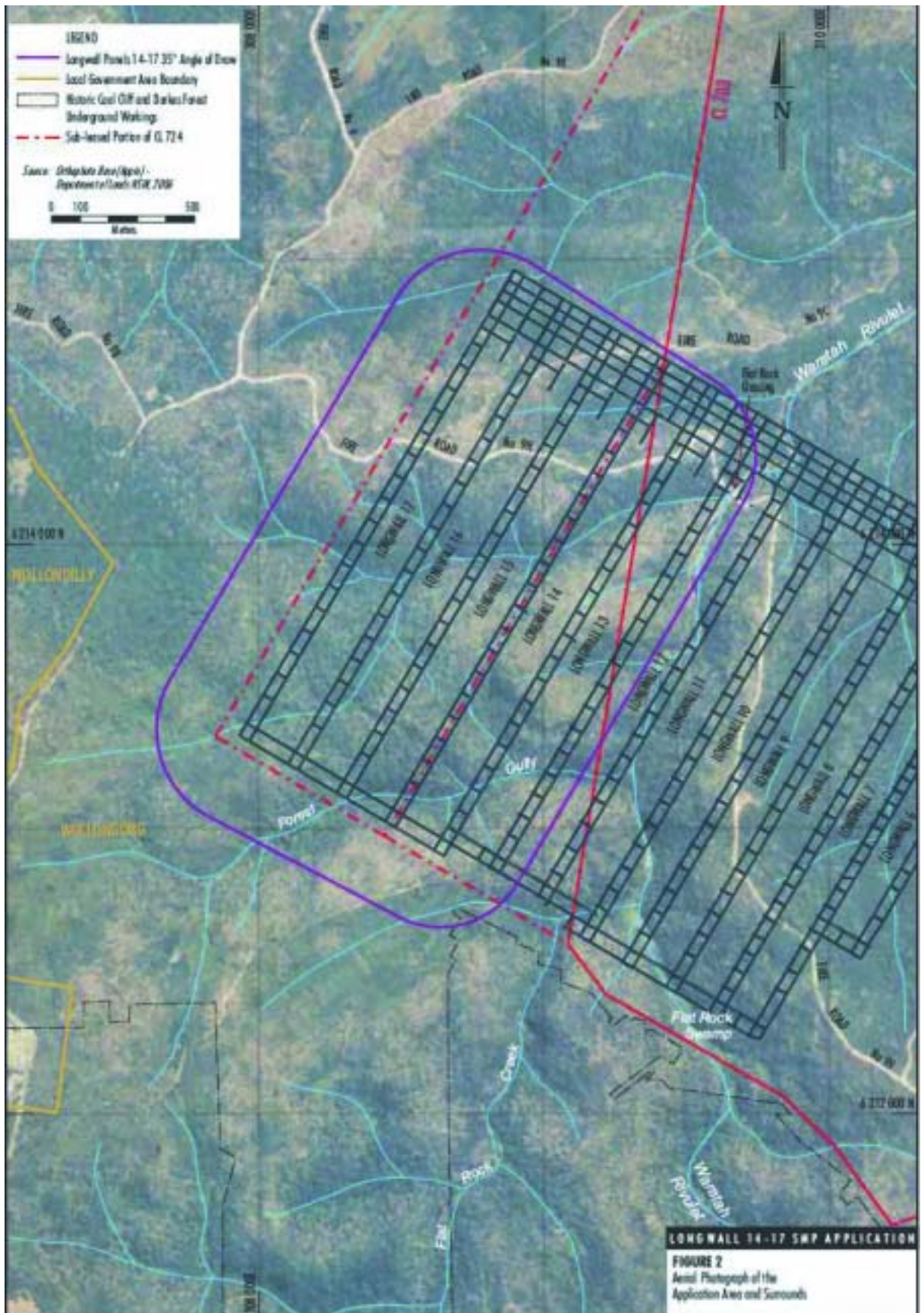
During the meeting with Peabody on 23rd November, the company stated its intentions sometime in 2007 to submit a 3A application under the *Environmental Planning & Assessment Act 1974* to extract a further 27 longwall panels that will run under the Rivulet and finish under the Woronora Dam storage area itself. This was most disturbing given the impacts that had already occurred to a catchment that provides the Sutherland Shire and parts of Wollongong with nearly one third of their drinking water (which can also be supplemented by pipeline from Sydney).

Once having seen the damage first hand, the dry bed of the Waratah Rivulet above the mining area and the stain of iron oxide pollution could be seen clearly using Google Earth, along with healthily flowing creeks in neighbouring catchments.

03

Following the inspection of the Waratah Rivulet in November 2006, TEC applied under FOI legislation to the SCA for documents including:

- Minutes of 'Ongoing Community Consultation' (as described on p.10 of SMP LWs 14-17) between Helensburgh Coal and the SCA from 2004 to the present
- Minutes of all meetings between Helensburgh Coal and the SCA regarding subsidence issues from 2004 to the present
- Annual Environmental Management Reports as submitted by Helensburgh Coal to the SCA for LW14 (should it exist) and equivalent annual environment reports by Helensburgh Coal referring to subsidence issues and water flow/quality for LWs 9-13
- Correspondence between the SCA and Helensburgh Coal regarding subsidence and water issues from 2004 to the present
- Memorandums and minutes of internal SCA meetings regarding subsidence, remediation and water flow/quality issues in the Waratah Rivulet from 2004 to the present
- Minutes of and SCA notes from any Interagency Review Committee meeting which discussed the SMP for Helensburgh Coal LWs 14-17
- Annual reports of any SCA monitoring (independent of Helensburgh Coal) of subsidence and water flow/quality in the Waratah Rivulet from 2004 to the present
- Notes from consultation between the DPI Director-General and CEO of the SCA prior to the approval of the SMP for LWs 14-17 (as required under the new approvals policy - p.3 of policy document)



Longwall panels above the Waratah Rivulet catchment. Mining is currently in LW 15

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SMP for LWs 10 & 11

As the longwall panels approached Waratah Rivulet from the east, SCA officers begin raising concerns over mining impacts and the accuracy of reporting by Helensburgh Coal.

Martin Krogh, Senior Environmental Scientist, SCA

23rd August 2004 - responding to statements by Helensburgh Coal that no adverse impacts have been observed on water quality, quantity or ecology

"This statement is false! Impacts have occurred, the question is what does the SCA want to do about it! There is potentially an impact on quantity in the short and long-term however the definiteness of this is affected by the lack of baseline data and confounding with the current drought conditions."

23rd August 2004 - responding to claims by Helensburgh Coal that long-term water loss would not occur as cracks would "eventually fill with sediment"

"There are plenty of examples in the catchments where this has not occurred. This raises a question as to what timeframes 'long term' refers to here. Certainly in terms of cracking we are talking about decades and perhaps century timeframes. This is inappropriate if the primary use of this area is for water catchment (water harvesting and protection) ... All this affects the long-term sustainability of water supply, particularly due to the current drought conditions and future water demands."

23rd August 2004 - responding to claims by Helensburgh Coal that increasing water flows are occurring downstream from mining

"The statement that 'general trend of increasing

flows downstream is observed' does not satisfy the SCA as in all naturally flowing rivers, streams and creeks flow increases downstream as influx from tributaries and baseflow discharge more flow into the main waterway. The SCA will be in position to accept water balance calculation and gain/loss of water from the Rivulet if scientifically proven results will be submitted."

23rd August 2004 - discussing Helensburgh Coal's reporting of impacts and future plans

"... this appears to be a reasonable report although any impacts are in my opinion significantly underplayed in terms of their importance ... Waratah Rivulet and Woronora river are the two major feeder streams into Woronora Reservoir and their structural integrity needs to be maintained if they are to provide a sustainable supply of water to Woronora Reservoir. There is evidence of this structural integrity already being affected and future proposed plans have the potential to do severe damage to this system. This can lead to a significant impact on the sustainable supply of water to Woronora Reservoir."

Flat Rock Swamp

In September 2004 the SCA's Senior Environmental Scientist reports the collapse of Flat Rock Swamp, identified as the recharge point or feeder swamp for the Waratah Rivulet.

Martin Krogh, Senior Environmental Scientist, SCA

10th September 2004 - internal SCA email

"I just went out and had a look at Flatrock Swamp and it is totally compromised - see photos. I don't know what's happened, although the confounding

04 WHAT THE FOI REVEALED

issues of fire, flood and mining probably/possibly all contribute. I really hope I don't see any more of these in the future, but I fear I will if we can't keep longwall panels well away from sensitive features like swamps. I expect the hydrology of Waratah Rivulet is now changed substantially, although what effect this will have on Woronora Dam is unknown."

8th October 2004 - internal SCA email

"Given what has happened to Flatrock Swamp, I also believe this places even more importance on maintaining the integrity of what's left of Waratah Rivulet."

Martin Krogh, Senior Environmental Scientist, SCA Assessment of Potential Causes Underlying the Collapse of Flatrock Swamp, 22nd October 2004

"An inspection ... identified severe erosive gullyng throughout the entire swamp with little or no surface water visible in the swamp. the swamp is severely compromised and this change in status is likely to have a significant effect on the hydrology of Waratah Rivulet and water yields to Woronora Dam."

What the Minister and Department were told

In this Ministerial Briefing Note from late 2004 the SCA clearly urges the DPI and the Minister to exercise a precautionary approach to further mining. This followed the collapse of Flat Rock Swamp but is prior to the mining of the panel (LW 12) that caused the bulk of the cracking to the rock bars and the riverbed and the draining of the rivulet.

The Risk Assessment by Galvin & Associates (2005) was conducted primarily to assess the coming impacts of the extraction of LW 12. While concluding that monitoring systems were providing no data that water was being lost from the catchment, the report qualified those findings by acknowledging that monitoring data was "not comprehensive".

George Dodds and Malcolm Hughes, SCA Ministerial Briefing Note: Subsidence Impacts on Waratah Rivulet - Woronora Special Area, 6th December 2004

"... the SCA has requested DPI (on 13 October 2004) to urgently investigate the damage and to exercise a precautionary approach in preventing further damage to the rivulet ... The Waratah Rivulet

catchment is 29% of the catchment of Woronora water storage which supplies residents in Sutherland Shire and northern suburbs of Wollongong."

"The final decision as to whether mining continues and in what form beyond the current longwall panel rests with DPI and Minister Hickey. The recent damage is of great concern to the SCA particularly as it now appears that the pool will drain completely. The SCA may need to urge DPI to restrict further mining, including not mining the next longwall panel (Longwall 12). The SCA will, as a minimum, expect DPI and the company to remediate the damage that has occurred to the rockbar and restore the water level in the rockpool."

**Galvin & Associates Pty Ltd
'A risk study and assessment of the impacts of longwall mining on Waratah Rivulet and surrounds at Metropolitan Colliery': commissioned by the NSW Department of Primary Industries, March 2005**

"Prior to the extraction of LW 11, surface flow occurred in the Waratah Rivulet all year round (including periods of extended drought)."

"There is potential for large water losses if sub surface water flows do not report back to the Woronora catchment system."

Monitoring and Remediation

The comments of various SCA officers express a consistent belief over three years that both Helensburgh Coal's monitoring data and remediation work is unreliable and ineffective. They stand in sharp contrast to Minister Macdonald's comments on ABC television (22nd December 2006) that the Waratah Rivulet had been "repaired".

Martin Krogh, Senior Environmental Scientist, SCA

9th September 2004 - internal SCA email

"Unfortunately, just like BHPB [BHP Billiton] in Metropolitan catchments, there are no plans for remediation of Waratah Rivulet identified. These systems simply do not 'self-heal' in the timeframes that are required if sustainable water supply is to be maintained and ecological health protected in these areas ... I believe that extraction of Longwall Panel 12 should be avoided altogether ... Given that no subsidence cracking has been remediated in any

04 WHAT THE FOI REVEALED

SCA areas to date, despite decades of coal mining operations, the prospects for maintenance of existing water flows is likely to be significantly affected. The cumulative impact as mining continues in this area will simply exacerbate this and eventually threaten the Woronora River as well."

George Dodds, General Manger, Catchment Operations and Major Projects, SCA

Proposed water quality and quantity monitoring program for the Waratah Rivulet effected by Metropolitan Colliery's Longwall Panels 14-17, 26th June 2006

"The stream ... has been subject to significant subsidence effects, which has resulted in subsurface fracturing of the ground and several significant rockbars. As a result, the rivulet has lost surface flow along a large proportion of its river length resulting in poor water quality, low (to no) flows and impacts on aquatic ecology."

"The SCA has consistently expressed its concern to the Department of Primary Industries and Helensburgh Coal regarding the impacts and the lack of solid evidence that remediation is being effective. As a result the SCA's Science and Research Section were asked to support several initiatives."

"As a result of this work, the SCA have concluded and developed:

1. That water quality is affected as a result of the mining operations when compared to newly discovered water quality data that predates longwall mining.
2. That the Helensburgh Coal data in relation to flow cannot be considered reliable.
3. That Helensburgh Coal reports ... do demonstrate a negative impact on the rivulet..."

Ross Wallis, SCA

27th July 2006 - internal SCA email

"However, to date, there is no evidence that remediation efforts have been successful in sealing the cracks in the creek, partly due to the additional cracking due to continued mining in adjacent panels and insufficient time for the remediation to be 'completed' and 'assessed' prior to the new LW."

27th July 2006 - internal SCA email

"It will not be possible to assess the sustainability and effectiveness of remediation efforts until well after mining in the area has ceased..."

SMP for LWs 14-17

The SMP Interagency Review Committee is the penultimate stage in the SMP approvals process whereby the relevant agencies make their final assessments and recommendations before the Director-General of the DPI makes a final decision on approving new longwall panels.

The Draft Minutes are summarised below but also included in full as a full appendix to this report. Despite the objections raised by the SCA at the Interagency Review and the complete failure of Helensburgh Coal to address them, the SMP for LWs 14-17 was approved by the DPI on September 4th 2006.

SMP Interagency Review Committee

SMP Review (Longwall Panels 14-17 Metropolitan Colliery)

Draft Minutes, 2nd August 2006

- SCA queries Helensburgh Coal's claim of no net loss of water from Waratah Rivulet. Claim "not proved and possibly inaccurate."
- SCA table a letter considering the SMP deficient. No baseline monitoring data provided by Helensburgh Coal.
- SCA state that the SMP "fails to address the cumulative impacts of LW 14-17 to the Waratah Rivulet." Describe the success of grouting programs as "limited". Predict that LWs 14 and 15 will be major contributors to cracking of the rock bar.
- SCA states that Waratah Rivulet is a "high energy" catchment and that there is little sediment to fill cracks and "facilitate natural remediation".
- SCA express disappointment with company's monitoring.
- SCA state that water levels are the result of mining and not the drought.
- SCA states that future mine layout is to avoid mining under significant streams

Ian Iandon-Jones, SCA

*25th August 2006 - SCA email to Michael Lloyd,
Subsidence Executive Officer, Department of Primary
Industries*

"The SCA has previously expressed its many concerns about the poor performance of this mine company in regard to this application. There has been little or no baseline monitoring undertaken for some of the implicated areas despite a specific SMP requirement for 12 months monitoring. This has likely caused problems with the company being able to prepare an appropriate management plan. As you are no doubt aware the treatment of those aspects in the SMP was grossly deficient."

"The mine company has made no approaches to the SCA that I am aware of in the last few weeks to progress the matter of developing a management plan in consultation with the SCA. The SCA has little confidence therefore in the company putting in the effort to have an acceptable plan developed within a reasonable timeframe."

05

Seven major rivers and numerous creeks in NSW have been permanently damaged by mining operations, which have been allowed to go too close to, or under, riverbeds. Other rivers are used as channels for saline and acid wastewater pumped out from mines.

Many more are under threat by new proposals. The DPI under the direction of Minister Ian MacDonald is continuing to approve new longwall panels with other agencies (such as the SCA) involved in the process to the extent that they participate on an Interagency Review Committee. This group gives recommendations concerning underground mine plans to the DPI but has no further say in the final decision.

Documents previously obtained under FOI by Rivers SOS revealed that an independent consultant to the Interagency Committee recommended that mining by BHP Billiton come no closer than 350m to the Upper Cataract River, yet the DPI ignored the recommendation and approved mining within 60m. In January 2007 it was revealed that the Upper Cataract River had been cracked and methane gas was bubbling to the surface.

River damage as a result of longwall mining involves multiple cracking of bedrock, ranging from hairline cracks to cracks up to several centimetres wide, causing water loss and pollution as ecotoxic chemicals are leached from the fractured rocks. Aquifers may often be breached. Although flagged by mining companies and the DPI as a solution, satisfactory remediation is not possible. In addition, rockfalls along mined river gorges are frequent.

The high price of coal and the royalties gained from expanding mines has led the lemma Government into a situation where it is allowing the integrity of drinking water catchments, aquatic ecosystems and natural and indigenous heritage to become compromised.

The regulatory system is failing and will continue to do so until there are major reforms, including removal of DPI as consent authority for longwall panels; legislative protection for waterways and application of the precautionary principle.¹

¹ See Chapters 7 & 8 for reform proposals in Total Environment Centre (2007), 'Impacts of Longwall Coal Mining on the Environment in New South Wales'.
http://www.tec.org.au/dev/index.php?option=com_content&task=view&id=420&Itemid=301

06

Below are the full minutes of the SMP Interagency Review Committee meeting held prior to the approval of the Metropolitan Colliery SMP. Two other mines (West Cliff and Appin 3) were also assessed at this meeting.

The minutes note that an independent consultant engaged by the SCA recommended a buffer of 350m between longwall panels and the Upper Cataract River to prevent damage to the river by BHP Billiton's Appin 3 mine. They also note the difficulties the SCA have in working with the mining giants operating in the catchment areas in terms of access to information, management ability and the fulfilment of requests for data.

The DPI approved Appin 3 to come within 60m of the Upper Cataract less than a month after the Interagency Review Committee's meeting. Damage was reported to the river in January 2007.

SMP Interagency Review Committee

SMP Review (Longwall Panels 14-17
Metropolitan Colliery)

Draft Minutes, 2nd August 2006

**Subsidence Management Plan
Interagency Review Committee**

**Minutes of Meeting
2 August 2006
Draft**

1. Attendance/Apologies

Present:

Ken Hollands (Chair)

Kim Alvarez

Trevor Jones

Michael Young

Malcolm Hughes

Michael Lloyd

Gang Li

Ian Landon-Jones

Greg Cole-Clark

Andrew Couldridge

Scott Carter

Greg Summerhayes

Apologies:

Rob Regan, David Hilyard

2. General Business

This is Trevor Jones' final SMP meeting. The DEC representative will be William Dove who will be seconded by Andrew Couldridge.

3. SMP Reviews

Metropolitan Colliery SMP

Summary of issues.

Query regarding the accuracy of statements such as "no net loss water". SCA state that this claim has not been proved and is possibly inaccurate.

A Part 5 assessment is required by the DPI.

Following LW17, Metropolitan needs to discuss with DoP re Part 3A approval for future longwalls.

Detailed discussions have occurred between SCA and Metropolitan re monitoring and trigger values, the conditions are to reflect these discussions.

SCA tabled a letter. The SCA considers the proposal deficient. There is no baseline monitoring data provided. The company is to be informed of the need for such data for approval of future panels.

Since 21 July, the SCA has received 6 sets of addendums that address the deficiencies.

The SMP fails to address the cumulative impacts of LW14-17 to the Waratah Rivulet. There has been limited success in grouting to date despite 2 campaigns, future panels will deepen the fracture network. LW14 will be a major contributor to cracking of the rock bar with some additional cracking arising following extraction of LW15.

SCA state that there will be implications to water quality and aquatic ecosystems. There is evidence that analytes have exceeded background levels. The SCA does not want water quality in the dam off take point to be affected by mining within the catchment.

The SCA is disappointed that, despite being 2yrs into the process, 12 month monitoring has still not been provided. The SCA state that discussions with the company only really began in July.

SCA provided revised conditions. The pool levels have not been maintained and are the result of mining not drought.

\$2m security has already been provided. The security will need revision. Metropolitan has spent several hundred thousand dollars remediating one rock bar.

The Rivulet and Catchment is a high energy environment. Thus there is little fine material to facilitate natural remediation. Unlike the Western Coalfields and Bargo, the company will need to continue remediation.

Metropolitan has invested 2 shipments of the binder at \$160,000 a shipment plus sand and time costs.

Question re will SCA accept the use of cementaceous material to assist with remediation. The SCA may accept their use only if the current natural methods prove totally ineffective.

The impacts that are being discussed were approved under the S138 not the SMP process. Future panels will be rigorously assessed under the 3A approvals and the current problems will be avoided.

Discussion re cumulative impact to the Rivulet.

Downstream of WRS3 are shallow pool/riffle sequence.

Further impacts may increase the difficulty in rehabilitation.

DEC will submit comments to the DPI. DEC wants biodiversity and monitoring conditions to be strengthened. Aboriginal heritage conditions needs expansion i.e. at significant sites S90 approval may not be obtained. The rehabilitation strategy needs to be outlined and monitored.

The SCA is satisfied that the baseline monitoring will satisfy their requirements. Future panel layout is to avoid mining under significant streams.

Recommend approval with the conditions being fine tuned out-of-session following the inclusion of DEC comments.

Appin Colliery Area 3 SMP

Overview of issues and discussion of impacts.

SMP is deficient in management plans. Late submission of management plans are occurring as recently as yesterday.

Specific studies on the reservoirs were not undertaken by the company until specifically requested by DPI, despite this recommendation being made by the consultant.

Telstra has identified the need for pre-mining activities as the optic fibre cable will exceed the tolerance level.

Statement re the questionable management ability of Illawarra Coal given ongoing discussions with agencies since January and requested management plans are still being developed.

Discussion re audit conditions to be included as audits are too intensive on agencies and a large number of infrastructure acre concentrated within the small area. The area may require frequent/intensive audit to ensure appropriate sign-off pre and post mining. The audit needs to be independent with regulators setting requirements to ensure success.

Illawarra Coal is difficult to obtain information from. When information is received it is minimal with no backup information.

Re the independent audit condition, DPI to draft and distribute out-of-session for discussion.

Query re conditional approvals being 'typical' and IAC approving prior to completion of management plans.

MSB is not confident of the approval due to the lack of management information, this the colliery needs to provide management plans prior to IAC consideration. IAC needs the confidence that infrastructure owners are aware of the implications and the risks. The SMP needs sign off letter from the infrastructure owners. Several plans remain to be signed off.

DPI to write to SMP applicants that finalised management plans must be presented prior to approval by the IAC.

The River is used by the SCA to transfer water between the Cataract Dam and Broughtons Pass Weir.

Broughtons Pass Weir was significantly cracked by the 400 series longwalls. The SCA determined that the dam wall was stable and no repairs were undertaken. The impact of the 300 series longwalls on Broughtons Pass Weir will be minor. The current plan exists for the management of the SCA infrastructure.

Jordans Weir – measures the flow and water release down the river from the Cataract Dam LW301A may result in underflow from the weir but this is considered manageable.

The preference is for the company to extract towards the River. The monitoring of LW301 will determine the acceptable impacts for LWs 302 and 301A.

The SMP provides good information on natural features. There are extensive pools containing a significant volume of water.

The SCA commissioned an independent consultant to determine a suitable barrier to protect the River and rock bars – 350m was determined.

The proposal will crack the river bed and affect water quality/quantity. The SCA focus is on the impacts to the river not on the cracks to the cliffs which will be minor.

The company propose to address management of the river through an increase in base flow to 5ML/d. The use of limestone to ameliorate is not acceptable to the SCA and Illawarra Coal dropped it from their management tools.

The SCA is prepared to release 5ML/d for up to 2years. The release will only occur if the SCA deems it necessary.

Illawarra Coal is relying on grouting but due to the physical characteristics and transfer activities with regard to the success of grouting of the lower Cataract and the Georges Rivers, it is very difficult to grout and ensure success i.e. no place for helicopter to land, boulder field present etc.

The SCA is not confident with the grouting management program due to physical nature of the area and that it's essentially a pristine environment.

The pools all interact independently i.e. the water level in some pools drop 600mm while others drop 100mm pre-mining.

Following the 200 series longwalls, Illawarra Coal advised SCA that there was no cracking. The SCA observed cracks on the first rock bar they went to approx 225m from goaf edge. However, downstream where the distance to the goaf is only 90m, SCA did not observe cracking to a large rockbar or a 'delicate' overhang.

Upsidence is a more reliable indicator of impacts than subsidence.

SCA is to provide documentation and suggest a change to the conditions.

Some water diversion is expected due to bed separation and cracking. Water quality will decrease temporarily but springs will have a longer impact.

The Cataract Dam up river acts as a settling pond, thus the water released is low in fine material to facilitate natural remediation.

The SCA has a major off take area downstream. Thus they have an issue with water quality, however the 5ML/d dilution should make the quality okay. This 5ML/d is not lost to the system as the SCA can reclaim this volume through management procedures.

Baseline data in terms of individual pool response will be needed.

It is preferred that LW301 be extracted at a later date but this is not possible.

Comparison between Waratah Rivulet and Appin Area 3 i.e. use of concrete grout as management plan within SCA Special Area (Schedule 1), Illawarra Coal is to provide an alternate management tool if concrete is not permitted.

SCA does not consider a conditional approval is appropriate until completion of the management processes.

Discussion re use of concrete and acceptability within the Special Area and the impact to water quality considering the use of concrete pipes/dams and the presence of the water treatment plant.

Proposed start date 20 October 2006 for LW301.

Pools at the end of the longwalls are more sensitive to SCA than the reach adjacent to LW301.

Discussion re suitability of increasing the barrier at the end of LW301 - to fully protect the river the barrier would need to be substantial.

The use of cement would be acceptable to the SCA if there is an acceptable risk at the water off take point.

Should DPI state that a successful grouting campaign is likely then the SCA will accept the advice.

Grouting may need multiple passes for success but the SCA has a limited time to release water.

Recommend no mining until the management plans and contingency plans have been developed.

DEC will require monitoring and reporting on cultural heritage areas.

The starting point of LW302 and 301A will be conditional on monitoring of LW301 – Principal Subsidence Engineer to provide a specific condition.

IAC needs confidence regarding a detailed contingency plan for the proposed grouting.

DPI to inform Illawarra Coal not to drive the installation road for LW302 yet.

West Cliff Area 5 SMP

Overview of application.

Infrastructure management plan developed recently.

Status report ensures implementation of management plans and requires monthly reporting. DPI has not received any such reports since the April approval.

This reach is politically sensitive due to the easy access; however the reach is not physically difficult to remediate. Remediation is feasible in this reach.

Some drainage of pools has occurred just south of the application area. DPI does not believe the company claims that this was not the result of mining.

There is very good baseline data along this reach of the river.

The Georges River is not fed by groundwater. BHPB has the ability to release water make and ensure environmental flows.

Salinity will need to be examined should there be a requirement to release water from Brennans Creek Dam for environmental flow.

Information regarding AGL's proposed gas power station is not of concern to IAC for this application.

The result of monitoring of LW31, including the LW29 impacts, will determine the end point of LW32 and 33.

Statement made regarding the impact being the same mining so close to the river as mining beneath the river, in effect there is no barrier proposed.

Discussion re need for barrier to ensure survey accuracy.

Unless there is a Ministerial direction of the need to stand back from the river, the IAC will need to have an understanding of the acceptability of impact to rivers. A case-by-case assessment will be needed of acceptability of the impacts.

MSB has an issue with the proximity to the river and suggest that Illawarra Coal needs to be judged by the impacts from LW29.

The community will not accept major but fixable impacts. IAC should accept minor but fixable impacts.

The Georges River is unlike the Waratah Rivulet. The impacts proposed are minor and are able to be remediated.

The proposed extraction direction is good for management. The standard conditions are in IAC's favour regarding the provision of reports.

DPI's recommended conditions have the ability to stop longwalls at any time.

Zones are to be incorporated where monitoring and notification is to be increased and reviewed. Principal Subsidence Engineer to provide a condition similar to that prepared for the F3.

Recommend conditional approval.

United Colliery variation

Overview of application for variation for first workings extension of one pillar to compensate for industrial action halt to development.

Recommend first workings approval.

4. Action summary

- Metropolitan approval to inform that suitable baseline monitoring data will be required for approval of future panels.
- DEC to provide comments re Metropolitan SMP to DPI.
- DPI to draft and distribute an independent audit condition for out-of-session discussion re Appin Area 3 SMP.
- DPI to write to SMP applicants that finalised management plans must be presented prior to SMP consideration by the IAC.
- SCA to provide DPI with suggested modifications to the recommended conditions of approval for Appin Area 3 SMP.
- Principal Subsidence Engineer to provide Subs Exec Off with condition re the starting point of LW302 and 301A being conditional on monitoring of LW301.
- DPI to inform Illawarra Coal not to drive the installation road for LW302 yet.
- Principal Subsidence Engineer to provide Subs Exec Off with condition re development of zones around Georges River where monitoring and notification is to be increased and reviewed.

Actions remaining unresolved:

- SEO to distribute map of southern coalfields to IAC for spatial identification.
- DG-DPI to discuss the issue of resourcing at the Water CEO meeting to bolster support for the SMP process within agencies.
- DPI to check if fees are permissible in the Mining Act amendments.
- IAC to be advised of updates regarding enforcement of Mining Act amendments. DPI Policy and Systems personnel to present.

- DPI-Mineral Resources and DoP to discuss the protocols for joint audits.

5. Next meeting

TBA

Further details and papers for the meeting will be provided in advance of this date.

Agenda:

Delta LW17 SMP – out-of-session consideration.



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