Protect Sydney's Water

An alliance to Protect Sydney's Drinking Water Catchments

Re: R032/15 - Springvale Mine Extension Project Second Review August 2015

From: Protect Sydney's Water Alliance

Protect Sydney's Water Alliance is an alliance of more than 50 community groups from across Sydney, the Illawarra, Southern Highlands and Blue Mountains. It formed in 2012 to protect Sydney drinking water catchments from destructive mining practices. Recently it was successful in the state-government buy-back of AGL's PEL 2 coal seam gas licence that covered all five dams.

Protect Sydney's Water Alliance (PSWA) rejects the project Springvale Mine extension and its predicted discharge, if its sister mine Angus Place recommences production, of up to 43.8 ML/day (one Olympic Pool = 2.5ML) of high salinity mine water into the Coxs River that flows into Sydney's Warragamba Dam. PSW asks that the Planning Assessment Commission reject this mine extension proposal (SSD 5594) and instead express support for the state conservation area proposal that would put in place permanent protection for the thirty nationally endangered swamps in the project area and terminate mine effluent discharges into the Coxs River.

PSWA strongly recommends rejecting Springvale's proposal and making it a condition of approval that the contaminated water from Springvale mine be sent to the Mt Piper Power Station for cleaning and use.

Sydney is fortunate to have a pristine and mostly natural water catchment to provide water for its more than 4.5 million people. The Warrangamba catchment is the largest of its catchments and provides water to more than 3.7 million of people in Sydney and the lower blue mountains.

The Springvale coal mining expansion by Centennial Coal proposes to dump saline mine effluent into the Coxs River, the **second largest tributary** in the Warragamba catchment and one that contributed

approximately 30% of the total inflow volume to Warragamba Dam – Sydney's main water storage - during 2012–13.[1] A polluted Coxs River has a significant impact on many other water flows in Warrangamba catchment area - fifteen tributaries including the Little, Jenolan, Kedumba and Kowmung Rivers merge with the Coxs river before it reaches its confluence with the Warragamba River to form Lake Burragorang.

> "More than one-quarter of the catchment is covered by the Warragamba Special Area. Protected from most human activities for over 70 years, this 2,600 square kilometre area is an important habitat for the spotted-tail (or tiger) quoll, eastern pygmy possum, Rosenberg's goanna and three threatened species of owls. With 75 types of eucalypts, the region also has the highest diversity of eucalypts in the world." (Water NSW)

This area is so special that a bushwalker would be fined $44,000 for walking there. It's a hot spot for diversity and also Sydney's largest catchment supplying water to more than 3.7 million people living in Sydney and the lower Blue Mountains.[2]

Lake Burragorang is Sydney's main water storage, supplying up to 80% of Sydney's water, and storing up to 2,027 gigalitres of water.

Water NSW lists as one of its main water issues as water quality which includes (but not limited to) pollution, algae and weed growth. Other issues are sufficient flows and freshes to maintain river health and the increasing demand for water by Sydney's urban population and industry growth.[3]

History of Springvale Effluent Impact on Coxs River

In June 2014, the NSW EPA found that both EISs for two major longwall coal mining expansions (Springvale + Angus Place) by Centennial Coal **failed** to adequately assess the impact of the mine expansions on water quality: *"This is a major concern to the EPA."* The EPA describes the contaminant load as a *"major issue"* stating that the *"potential salt load alone (7,500 to 13,000 tonnes per annum)"* is *"extremely large for a freshwater system."*. Considering these impacts the EPA stated that it is "*unable to support the **Springvale** and Angus Place expansions in their current form."*

PSW is very concerned at any expansion of the Springvale Colliery when its existing impacts upon water quality are so significant.

- The pollution emitted at LDP9 is therefore approximately 35 times that of background salinity.

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[1] http://www.environment.gov.au/epbc/notices/assessments/2013/6889/2013-6889-iesc-advice.pdf, p. 11
[2] http://www.sca.nsw.gov.au/catchment/sub-catchment/warragamba
[3] http://www.water.nsw.gov.au/water-management/basins-and-catchments/hawkesbury-catchment

- Mine wastes discharged at LDP9 contain unacceptably high concentrations of copper, aluminium, zinc, calcium, potassium, magnesium, sulfate, chloride and sodium and are also extremely alkaline.

Log of Claims – Is this a company we want in our most precious natural areas?

- The department of planning failed to impose conditions of approval for the Springvale mine that would protect the East Wolgan swamp.
- Centennial Coal was fined $1.45 million by the federal govt in 2011 after the mine damaged the East Wolgan Swamp.
- Junction Swamp has also been impacted by the existing Springvale mine.
- Centennial Coal incorrectly described as "minor" surface cracking associated with these swamps. In 2007 the company reported that surface cracking connected to swamps were "rapidly weathering and filling with silt" and having a "minimal impact" with surface cracking associated with these swamps by Centennial Coal.
- Environmental consultant to Centennial Coa, ecologist Ray Mjadwesch says he was sacked by the company in 2001 after warning that its longwall mining was causing serious damage to endangered swamps on Newnes Plateau, near Lithgow.[4]
- Surface cracking associated with these swamps was incorrectly described as "minor" by Centennial Coal. In 2007 the company reported that the cracks were "rapidly weathering and filling with silt" and having a "minimal impact".
- In 2009 it was revealed that up to 14 megalitres a day of mine effluent had flowed down a crevasse at the northern end of East Wolgan Swamp for periods ranging from weeks to months. Damage to the swamp was indeed very serious and the degree of damage was very apparent.
- East Wolgan Swamp has had no natural flows following mining.
- In the nine years since these swamps have been damaged there has been no recovery to demonstrate that the cracks are rapidly weathering and filling with silt and that the underlying geological conditions are being restored.
- This swamp damage by prior mining should serve as a warning to prohibit any future undermining that is similarly predicted to cause cracking of surface rocks below swamps.

Springvale Mine Wastewater goes into Sydney Main Reservoir via Coxs River

The Springvale coal mine extension will release highly saline waste water into the Coxs River which flows into Lake Burragorang (Sydney's main water storage, supplying up to 80% of Sydney's water, and storing up to 2,027 gigalitres of water in Sydney's main reservoir). If approved the proposed mining will result in increased mine water discharges and a consequent decrease in downstream water quality.

[4] http://www.smh.com.au/nsw/ecologist-says-warnings-to-centennial-coal-on-lithgow-mine-lead-to-sacking-20150703-gi4pe9.html#ixzz3jLw50phG

Salinity of Effluent

Since the closure of Wallerawang power plant in 2014, the operation and discharge of the Springvale Mine has caused the Coxs River to become much more saline. The EPA considers the discharge to be toxic.

The proponent's expert model predicts the salinity of Lake Burragorang to increase by 5 or 6% due to the mine effluent emitted from LDP9. The finding that LDP9 can increase salinity by 5 to 6% indicates this discharge must have a serious effect on the Coxs River if it is having such an impact on a very large body of drinking water. The Sydney Drinking Water Catchment State Environmental Planning Policy stipulates that the consent authority cannot approve development unless it is satisfied that the carrying out of the proposed development would have a neutral or beneficial effect on water quality.

- The maximum recommended or accepted salinity standard is 350 micro-Siemens per centimetre electrical conductivity (EC) but Springvale's owner, Centennial has only agreed to reduce the salinity of its effluent to a 700 EC by June 2017 and 500 EC by June 2019 (EPA 2015). It has refused to set a timetable for cutting it to 350 EC, or the maximum pollution level recommended by the accepted Australian standard.
- The pollution emitted at LDP9 is therefore approximately 35 times that of background salinity. Mine wastes discharged at LDP9 contain unacceptably high concentrations of copper, aluminium, zinc, calcium, potassium, magnesium, sulfate, chloride and sodium and are also extremely alkaline. It is very concerning that this mine is seeking to expand when its existing impacts upon water quality are so significant.
- Protect Sydney's Water Alliance takes guidance from the NSW Nature Conservation Council who recommends that the only effective way to treat the high levels of turbidity, heavy metals including aluminium, zinc and copper, and salinity is by requiring the mine to **install reverse osmosis technology** to remove all metals and salts. Currently the transfer scheme forms the bulk of the median flow of the Coxs River at its nearest monitoring point to LDP9. The current discharge from LDP009 would more than double the median flow of the Coxs River **of 13.3ML/day**. We believe that such an arrangement cannot have a neutral effect on the water catchment as required by State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011.

Volumes of Effluent

The important fact that Centennial does not want Sydney residents to know regarding its water discharges from this mine proposal is that the worst case considered by the PAC was just 40% of the capacity of the discharge system for which Centennial Coal is seeking approval.

19 ML a day or effluent or 23 ML a day?[5]

Centennial Coal reported to the Planning Assessment Commission (PAC) **that 19 megalitres** a day of mine effluent would be the maximum discharge from the proposed mine-extension (see PAC, p. 18). This daily discharge volume is only a part of the cumulative discharge from this and the Angus Place mine.

The EIS for Centennial Coal's proposed Springvale mine-extension proposes duplication of the effluent discharge infrastructure so that 50 megalitres of effluent could be discharged a day into the Coxs River (p. 162 and figure 4.1, p. 155 of EIS, 2014). The current effluent discharge is quadruple the medial Coxs River flows of 12.2 megalitres a day at the point where the discharge enters the river - so there is no effective dilution of the effluent by the river.

We acknowledge that the Department of Planning and Environment and the Environment Protection Authority have now requested a consent condition for the project specifically excludes expansion of the capacity of the SDWTS. This underscores our concern that the review PAC review was possible misled by Centennial Coal.

19ML/day of effluent - The PAC reported that 19 megalitres (ML/day) released into the Cox's River will increase the salinity of Sydney's main water supply by 6%. If that is the case then the 50ML/day facility that Centennial Coal were proposing would have increased salinity by more than 15%. Springvale mine discharges 23 megalitres a day now. As a result, the PAC assessment is already exceeded by 4 megalitres a day.

Plus another 25ML/day - In addition is a plan by Centennial to transfer the toxic discharges from Clarence Mine to Springvale, adding up to another 25ML/day. [6]

In the meantime according to standards proposed by the EPA, the mine will continue to release waste water with a maximum of 1200 EC. The median EC of mine effluent from LDP9 alone is 1055µS/cm, while background conductivity for headwaters of the Coxs River is only 30µS/cm. These concentrations with associated metal ions such as zinc exceed the maximum tolerance for many macroinvertebrate species and the EPA considers the discharge to be toxic.

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[5] https://www.colongwilderness.org.au/news/2015/springvale-mine-extension-proposal-mine-effluent-will-poison-coxs-river#sthash.FwteG2We.lygIwrks.dpuf

[6] https://www.colongwilderness.org.au/news/2015/springvale-mine-extension-proposal-mine-effluent-will-poison-coxs-river#sthash.U0yGl7f3.dpuf

2005 state conservation area proposal

A state conservation area will have many benefits to tourism linked employment in the town. Newnes State Forest, the largest and most diverse part of the reserve proposal, is threatened by the Springvale Mine extension proposal. The state conservation area proposal would provide protection for thirty nationally endangered swamps. It is inappropriate to allow mining in areas that will impact these swamps. The proposed extension of Springvale Mine would also significantly reduce the water quality of the Coxs River.

Either neutral or no impact on Sydney's water must be the minimum benchmark

The neutral or beneficial test for water pollution must ensure that future generations are no worse off with catchments producing good quality water and healthy aquatic biodiversity. The proposed dilution of the more saline Springvale effluent with the less saline Clarence effluent is not acceptable as it would increase discharges while only marginally reducing the salinity concentration of the effluent. The salinity of the Clarence Colliery effluent is 342 µS/cm, but this saline discharge has been toxic to aquatic life.

Impact on Swamps

The formation and persistence of both hanging and shrub swamps is dependent on a sandstone band known as the **Burralow Formation**. The rock fracturing associated with longwall mining extends up to a depth of 15 metres and will pass through the first few aquitards of the Burralow Formation. The proponent's experts estimate that a drawdown of 0.5 to 10 metres can be expected. This fracturing and drawdown risks the loss of all thirty nationally endangered swamps dependent upon the Burralow Formation. This is demonstrated by the past loss of swamps and associated cracking of the Burralow Formation due to the existing Springvale mine. The proponent should be required to modify its proposal to prevent the cracking of the Burralow Formation by further narrowing the width of longwall panels and shortening others to prevent swamp damage.

The Department of Planning's environmental assessment states on page 22 that the 'compressive strains along the drainage lines in the extraction area, resulting from valley closure movements, are expected to be similar to those measured above extracted longwalls at Angus Place and Springvale.' Past environmental damage will continue into the mine extension area, a conclusion reinforced by the findings of the Independent Scientific Committee on coal seam gas and large coal mining development (24 August, 2014) that it is highly likely that impacts to Temperate Highland Peat Swamps on sandstone, a federally endangered ecological community, and dependent threatened species will be severe and potentially irreparable (pg 2). **Yet the Department of Planning has**

ignored this finding, and appears to have preferred the proponents' consultants modelling outcomes.

There is ample evidence to conclude that the current lengths and width of longwalls in the current proposal will cause swamp damage.

- Longwalls (LW) 419 - 422 must be significantly narrowed to prevent surface cracking under the largest most intact Newnes Plateau Shrub Swamps;
- LW 432, 431, 430, 429 should be shortened to prevent damage to the Marrangaroo swamps;
- LW 425 - 426 should be shortened to protect Paddys Creek Swamp;
- LW 417 and 418 should be shortened to protect Carne West Swamp; and
- LW 501 should be shortened to protect cliffs and pagodas.

Jobs

Australia prides itself as a knowledge nation. We have some of the best universities in the world. Yet there is no plan for jobs it seems outside mining. The closing down of car industry suggested that the economic impact on South Australia and Victoria suggests 27,000 workers will lose their jobs. When jobs are lost in other industries such as renewables or manufacturing we always hear the government not to blame. ABC losing 300 jobs due to a government efficiency drive. There's an opportunity to create over 6,900 new jobs in NSW's electricity sector by 2030. Just as we shouldn't look at this mine on its own, so we shouldn't look at its jobs on their own.

Protection of Water is one of the Most Significant 21C issues

The protection of water flows such as the Coxs River into Sydney's Water Catchments must be considered a priority issue in 2015 and this economic imperative for the sustainability of our mega city far outweighs keeping a precarious operation open.

PSW strongly recommends rejecting Springvale's proposal and making it a condition of approval that the contaminated water from Springvale mine be sent to the Mt Piper Power Station for cleaning and use.

Protect Sydney's Water Alliance hopes that that PAC will act in the long term interest of the water supply for Sydney's growing population and in the protection of our stunning natural environment.

Yours sincerely,
Isabel McIntosh
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