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Nature Conservation Saves for Tomorrow

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Response to the Sydney Water Catchment Audit 2016

The Society has approximately 800 members and interacts with various environmental organisations including the Colong Foundation, Protect Sydney's Water, and the Lithgow Environment Group. Its involvement with the Sydney Water Catchment principally relates to the interaction of coal mining in the headwaters of the Coxs River.

There is, nevertheless, much concern in relation to the flightpaths related to the Western Sydney Airport (WSA), substantially in terms of aircraft fuel emissions, potential dumping of fuel in an emergency, and of course aircraft crashing within the catchment. The WSA-related impacts are in many ways self-evident and will not be further addressed in this response. Should you, however, require a copy of pertinent sections of the Society's submission to the WSA Draft EIS, please contact Ross Coster (0418463576 or by email at ross@coster.com.au).

1. Historical outline

From previous audits, the protracted history of mining and coal-fired power generation in the Upper Coxs River catchment should be well established. As well as the old underground selective mining extending back to the last part of the nineteenth century and continuing for much of the twentieth century, mining on the western escarpment evolved to open cut methods and then more recently to longwall underground methods. This has created substantial levels of contamination in terms of increased salinities and unacceptably high levels of metallic and non-metallic ions.

BMCS took Delta Energy to court for its polluting discharges to the Tortuous Water course that in turn entered the Coxs. This ultimately went to mediation and Delta agreed to the Society's requests. Commitments were made and the design of an appropriate treatment plant, together with interim changes to its licence designed to progressively ameliorate polluting discharges during the protracted construction of the RO plant, were all in train. Then things changed!

Delta was sold to TruEnergy (which became Energy Australia), the Wallerawang plant encountered considerable difficulties, the need for power decreased for a range of reasons, and then Wallerawang was shut down and is now being decommissioned.

Throughout much of the time from about 2005, Angus Place and Springvale continued to discharge mine water to the Cox's tributaries under the terms of their licences. However, attitudes to pollution were changing and the EPA had extensive discussions about reviewing the licences and bringing them up to date in terms of reducing the levels of pollution. Little was resolved, but when Angus Place and Springvale proposed substantial extensions to their operations, the EPA and other water authorities indicated that improvements would be part of any consent conditions. Subsequently, the battle about what are acceptable levels of polluting discharges and how best to achieve them have occupied the companies and the various government authorities. Matters are far from satisfactorily resolved, despite Consent being granted for Springvale's extension (Angus Place is on care and maintenance due to low coal prices).

This brings matters up to 'now', but the solutions being proposed are inadequate and are still being contested by environmental groups. Especially because the Coxs sub-catchment provides a significant portion of Sydney's water supply.

2. The current situation

Analyses from the Coxs tributaries upstream **of any mining activity** have salinities in the order 30 $\mu\text{S}/\text{cm}$ EC. The discharges proposed by Springvale from LDP009 are in the order of 1200 $\mu\text{S}/\text{cm}$. The Federal IESC, the NSW EPA, OEH, experts from Western Sydney University (WSU), and environmental organisations all opposed this level of discharge. Also, Energy Australia was concerned about the impact on the salinity of Lake Wallace.

Ultimately, the EPA, Springvale and the DPE (and perhaps others, but we were not party to the discussions) agreed on a set of consent conditions in **SSD_5594 Schedule 4 Condition 12 and Condition 13 p16**, which stipulated the performance measures for Mine Water Discharges and detailed the Upper Coxs River Action & Monitoring Plan (UCRAMP). The outcome was that Springvale was to:

- *discharge all groundwater inflow mine water (except from the Renoun workings) through the Springvale Delta Water Transfer Scheme;*
- *meet limits for salinity of 700 (50th percentile), 900 (90th percentile) and 1,000 (100th percentile) $\mu\text{S}/\text{cm}$ EC by 30 June 2017;*
- *meet a limit for salinity of 500 (90th percentile) $\mu\text{S}/\text{cm}$ EC by 30 June 2019; and*
- *eliminate acute and chronic toxicity from LDP009 discharges to aquatic species by 30 June 2017, with acute toxicity defined as >10% effect relative to the control group and chronic toxicity defined as >20% effect relative to the control group.*

In addition, in the context of the UCRAMP, Springvale was to:

- *identify all available water management measures designed to achieve the mine water discharge criteria and associated timeframes required by condition 12 above, including potential transfer of mine water to Mt Piper Power Station and consideration of all licensed discharge points within the Upper Coxs River catchment (including at Springvale Mine, Lidsdale Siding, Western Coal Services and Angus Place Colliery);*
- *include a financial justification and timetable for achieving reductions in salinity in the Upper Coxs River to 500 (90th percentile) $\mu\text{S}/\text{cm}$ EC by June 2019 and identify enforceable mechanisms for the implementation of the proposed measures;*
- *include a monitoring program which is based on:*
 - *water quality, macroinvertebrate and ecotoxicology monitoring **across the Coxs River Catchment to measure performance against a long-term water quality objective of 350 $\mu\text{S}/\text{cm}$ EC** and the impacts of salinity and toxicity changes on the aquatic ecology and ecosystem health of the Cox River;*
 - *water quality parameters to be monitored at all existing and proposed licensed discharge points (focusing on those parameters that have been identified as having potential to cause harm to the environment, the frequency of monitoring and concentration limits required by condition 12 above and any EPL that applies to the site).*

The inclusion of the consideration of transferring the discharge waters to Mt Piper was introduced following strong representation from environmental groups. It was felt that this could resolve the problem of all the discharge points used by Centennial.

The Society strongly emphasises that:

- achieving 500 $\mu\text{S}/\text{cm}$ EC is too generous to the company, bearing in mind that the 'pristine' condition upstream of all mining pollution is 30 $\mu\text{S}/\text{cm}$ EC;
- there is little incentive to meet the 500 $\mu\text{S}/\text{cm}$ EC target before June 2019, so the company can pollute the Coxs via LDP009 and the other discharge points with impunity for the next three years
- the consent conditions in SSD_5594 Schedule 4 Condition 12 and Condition 13 were inadequately thought through because the principal aim was to approve Springvale's extension irrespective of the true environmental benefits; and,
- by inserting the matters of "*...including potential transfer of mine water to Mt Piper Power Station and consideration of all licensed discharge points within the Upper Coxs River catchment...*" into the consent conditions we are now faced with SSD 7592 EIS (re Springvale Water Treatment Project) which raises as many problems as it resolves – this is despite environmental groups favouring the transfer of mine water to MPPS.

3. The Springvale Water Treatment Project

BMCS strongly supports the transfer of the Springvale and Angus Place mine-water, together with the discharges from all other Centennial-linked Licensed Discharge Points (LDP) within the Upper Coxs River Catchment to MPPS. However, SSD 7592 has been produced in a hurried and, arguably, compliant fashion in accordance with minimising costs to Springvale and MPPS; it fails to achieve the sound environmental outcomes that would truly benefit the catchment.

These issues will be presented in a submission to Major Projects, Department of Planning and Environment (DPE). It is our understanding that such submissions will be available to you through the DPE's website; the matters will not therefore be developed here. Nevertheless, BMCS notes that whereas it is committed to the transfer concept, it sincerely hopes that the level of funding involved will not lead to sub-standard compromises.

4. The Springvale Mine-water Case by 4nature Inc.

The State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 stipulates that the determining authority assess whether or not a proposal would have a neutral or beneficial (NorBE) impact on water quality in the receiving waters.

The judgement handed down on September 13, 2016 in relation to the case brought against Centennial by 4nature is extraordinary and will rightfully be the subject of an appeal. The judgement effectively found that, if the receiving waters were already polluted, even when the pollution resulted from the company's past actions whilst acting under licence, then, if the mine-water was (say) of lower salinity than the current state of the receiving waters, the outcome would pass the NorBE test. Somewhat ludicrously, this rewards past bad practice because it enables the company to be less rigorous about the quality of its proposed discharges.

Obviously, based on the physical size of the judgement, the matter is very complex; or has been made so by the extensive arguments presented by the various authorities and the company's consultants. Dare one say that the water has been muddied?

It is not the role of BMCS to attempt to unravel the complexities now that judgement is subject to appeal. However, the Society does contend that **the original intent of the SEPP was to ensure new developments have a neutral or beneficial effect on the water quality of receiving waters in Sydney's drinking water catchment.** The mere fact that some of those receiving waters have previously been corrupted by mining activities, or that dilution arguments are used to 'justify' carrying tonnes of salt and substantial quantities of

heavy metals into Lake Burragorang, were never envisaged in the concept behind the SEPP and the creation of 'no entry' and 'restricted entry' special areas encompassing water supply reservoirs.

5. Longwall mining impacts on water supply

The NSW Scientific Committee on Threatened Species concluded that longwall mining is a key threatening process¹. This is particularly so for upland swamps on sandstone and is applicable to the Western and Southern coalfields in the context of water supply. Examples of damage to watercourses (reduced flow, cracking, etc.) are particularly well established in relation to the smaller water supply reservoirs to the south of Sydney² and in the context of water losses from Thirlmere Lakes³.

Recent investigations⁴ of the loss of surface water and groundwater due to longwall mining beneath Newnes Plateau in the Western Coalfield have established beyond reasonable doubt (even acknowledged by Centennial Coal!) that:

- In the context of a significant lag time, dewatering longwalls inevitably leads to downward migration of groundwater and lowering of the watertable with impacts on surface flows and endangered ecological communities; and,
- 'far-field' groundwater impacts can extend well outside the buffer zone predicted for the longwall panel by distances in the order of a kilometre as a function of high-permeability paths reflecting geological conditions.

The pertinence of these findings, despite obviously impacting endangered swamps and their ecologies, lies in the impacts on base flows to creeks and river systems and water-supply storage throughout the coalfields of the Sydney Basin and beyond.



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

¹ <http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20001>

² <http://www.waternsw.com.au/water-quality/catchment/mining/research/longwall>

³ http://www.pellsconsulting.com.au/downloads/Pellsetal_Thirlmere_IAHR2016.pdf

⁴ By Pells Consulting in a report commissioned by The Colong Foundation and The Blue Mountains Conservation Society; and by the Independent Monitoring Panel in a report required by the DPE.