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6 February, 2023

By email:

Compliance, NSW Environmental Protection Authority
compliance.services@epa.nsw.gov.au

Steve Beaman stephen.beaman@epa.nsw.gov.au

Re: Cancellation of Peabody's Metropolitan Colliery EPL 767

Sutherland Shire Environment Centre is a not-for-profit community organisation that has been advocating for the environment in the Sutherland Shire and surrounding bio-regions since 1991.

We thank the NSW Environmental Protection Authority (EPA) for bringing forward the review of Peabody's Metropolitan Colliery, and for the opportunity to provide a submission to this review.

The Colliery has released polluted waste material into Camp Gully Creek on numerous occasions through 2022, in January, July, August, September, October, November, and December.[1]

Prevention notices have not made a difference, and the penalties levied for such offences are insignificant to a company this size. Peabody made $26 billion in Australia over the last 8 years.[2]

On 16 January, 2023 yet another spill was reported, with "grey, turbid water with possible coal material present."[3]

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[1] https://www.illawarramercury.com.au/story/7847523/15k-fine-for-helensburgh-mines-water-pollution-not-enough-for-environment/ ; https://www.abc.net.au/news/2022-11-18/epa-threatens-to-suspend-peabody-energy-licence-after-pollution/101670658 ; https://www.facebook.com/SutherlandShireEnvironmentCentre/posts/pfbid0PR1LGM3TC5LcWphMKiC8oDzoFq9jqokBu1KP4BqCYHqWVvgPgn4GqB1bWKGLsd8tl ; https://www.facebook.com/SueHigginsonMLC/videos/429674669268602 ; https://www.facebook.com/SueHigginsonMLC/videos/564015475496562 ; https://www.illawarramercury.com.au/story/7986943/illawarra-miner-threatened-with-suspension-after-another-incident/ ; https://www.facebook.com/SutherlandShireEnvironmentCentre/photos/a.211951572200652/5905829966146089

[2] https://michaelwest.com.au/foreign-fossil-fuel-juggernauts-dominate-the-annual-mwm-top-40-tax-dodgers-chart/

[3] https://www.theleader.com.au/story/8045528/coal-mine-cleared-over-beach-matter-while-inquiry-into-earlier-allegations-continues/

In order to adequately protect the Royal National Park we believe that **it is imperative the Peabody Metropolitan Colliery Environment Protection License 767 be cancelled**.

Peabody have consistently demonstrated they are not able to manage conditions at their surface facilties at Helensburgh in a manner necessary to protect the Royal National Park. The site is narrow and very constrained for the type of coal processing facilities required.

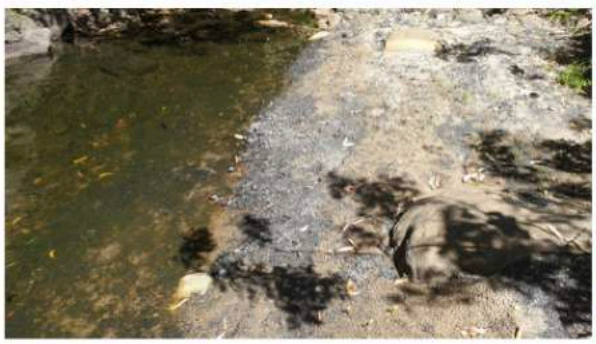
Even if the pollution events this last year occurred due to a significant amount of rain, especially in early 2022, should the Colliery be operating in this location if is unable to manage conditions at the site? Climate change forecasts suggests the conditions we have seen over the last year will only worsen.

The spills listed above are also only the ones that have been noted. There may have been others that were not recorded.

Our members have photos from 2020 and 2021 showing coal fines and coal sediment in Camp Gully Creek - these are a strong indication that other pollution incidents occurred over the last few years which were not recorded by the EPA.

24 November 2020 Coal lumps and fines line Camp Gully Creek near the rear of the Metropolitan Colliery surface facilities.
The force of the water running through this area in times of significant rain supports a conclusion that this is not old coal waste material.

Photo credit: Ian Hill



10 April 2021
Coal waste at Camp Gully Creek near the confluence of the Hacking River.
Note the fine coal sediment. The force of the water running through this area in times of rain lends credence to a conclusion that this is not old or historic coal waste material.
Photo credit: Ian Hill

11 April 2021 fine coal sediment in Camp Gully Creek. Photo credit: Dr Tassia Kolesnikow

In formulating a decision regarding this matter the EPA is required to consider the *Protection of the Environment Operation Act 1997*.[4] Two points from that Act are particularly relevant:

- the "**environmental values** of water affected", and
- the "**practical measures** that could be taken to restore or maintain those environmental values".

On the first point, the Royal National Park has been recognised for its outstanding natural environmental values and is arguably one of the most iconic national parks in Australia. Its significance is recognised across the Nation, and it is formally gazetted on the National Heritage list:

> … it has outstanding heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history.[5]

Many have argued this Heritage listing is insufficient, and that the Royal should be World Heritage Listed.[6] As well as its extraordinarily beautiful and diverse geomorphology, flora and fauna, it has huge cultural significance as one of the world's pioneer national parks, along with Yosemite And Yellowstone in the USA. The Royal National Park was dedicated 'for the purpose of a national park' in 1879. It played a critical role in the evolution of the nineteenth century worldwide recreation based conservation movement.

The extraordinary value of the Royal National Park requires that it be properly protected.

As per the *Protection of the Environment Operation Act*, in addition to considering the value and significance of the Royal, "the **practical measures** that could be taken to restore or maintain those environmental values" must be taken into account in any review.

We know that the clean-ups undertaken by Bio Analysis Pty Ltd and WSP to date have only had limited success.

With all the spills that occurred through 2022 rain washed black coal sludge waste and coal sediment far downstream, and no containment measures were put in place.[7] Much of the pollution we saw in August and September 2022 escaped downstream before remediation even began. The force of the water that flows through Camp Gully Creek and the Hacking River during heavy rain is considerable, it easily "flushes" coal fines, sediment, and even larger coal material far downstream. We have videos showing the force of this water that we can supply if you require evidence.

Over the last few years an increasing amount of coal waste material has been sighted in waterways around the Audley Weir precinct, on the banks of the Audley Pleasure grounds, and even as far as Port Hacking.

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[4] https://legislation.nsw.gov.au/view/html/inforce/current/act-1997-156#sec.45
[5] https://www.dcceew.gov.au/sites/default/files/env/pages/825c82df-f4a6-457f-a9aa-e0101c136d43/files/10589302.pdf
[6] https://ssec.org.au/firstnationalpark/First%20National%20Park.pdf
[7] https://www.illawarramercury.com.au/story/7942056/coal-pollution-extended-all-through-national-park-to-audley/

Will Peabody escape full liability remediating the full amount of the coal material they released into the park? It seems so.

In consultation with NPWS the EPA has decided that remediation should only take place to the intersection of McKell Avenue and Lady Wakehurst Drive. A cleanup to that point is reportedly a result of fears that any fuller cleanup would exacerbate the environmental impact of what has occured. Meanwhile the Hacking River remains littered with coal.

Previous claims that this is all “legacy coal” do not meet burden of proof.

Early in the first quarter of 2022 a member of the public reported increasing amounts of coal through the Hacking River as far down as Jersey Springs, on the Hacking River just a little north of Audley. When this was reported to the EPA it was dismissed as "legacy" coal. His videos taken over months can be seen at this link:
https://www.youtube.com/@TheRussellarnold

In terms of the extent to which this coal waste pollution can be regarded as legacy, after coal material was sighted at Grays Point in Port Hacking on New Years Day we contacted Bureau Veritas who advised it is not possible to accurately date how long coal has been brought to the surface, or long it has been exposed to the elements. In other words, **it is not possible to determine whether or not all the coal material in the Hacking is legacy”.**

The sample we took from Port Hacking on New Years Day also has sharp edges, not rounded, which has been a previous measure. This is available to testing if the EPA is wiling to apply closer consideration to what constitutes “legacy” coal.

At Swallow Rock, Grays Point, 1 January, 2023. Photo credit Lily Meier.

Coal waste on the Audley picnic flats, 25 June 2021. Photo credit Bob Crombie

Coal waste fines on the Audley picnic flats, 25 June 2021. Photo credit Bob Crombie

Coal waste fines on the Audley picnic flats, 25 June 2021. Photo credit Bob Crombie

Former Royal National Park head ranger Bob Crombie has many photos of coal material washing up around Audley over the last couple of years, and black water events, similar to what was seen in September 2022.

Will such "legacies" be ongoing? The Hacking River is a significant catchment which runs over twenty kilometres through the length and heart of the Royal National Park.

The force of the water through that catchment saw Audley Weir flood for 50 days in 2023.[8]

With the heavy rainfall through the early part of 2022 it is entirely possible the Colliery holding dams were overflowing then too.

The NSW National Parks and Wildlife Service Audley Masterplan notes that:

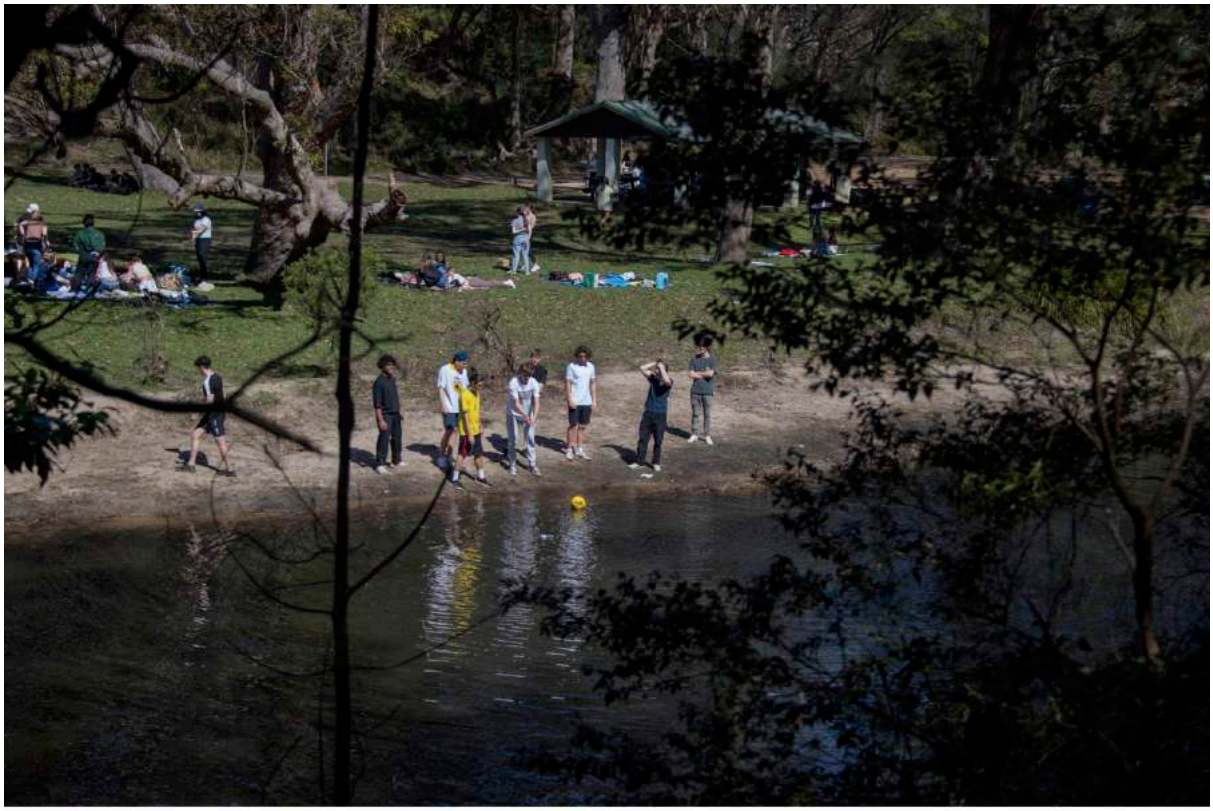
> The Audley precinct is one of the significant cultural landscapes within Royal National Park. Commonly known as a pleasure ground or picnic ground, Audley is the oldest of the cultural landscapes within the park developed for recreational purposes.[9]

The "Audley historic recreational complex" is also listed on the NSW State Heritage Register.

[8] http://bundeenainfo.com/audley-weir-closures-2022/

[9] https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected-areas/Parks-plans-of-management/audley-masterplan-royal-national-park.pdf, p.xvi

This historic precinct is being disfigured because of the Peabody Colliery. Despite repeated requests Sutherland Shire Environment Centre is still waiting on an account of how many tons of polluted sediment from the Colliery is banked up behind Audley Weir.



16 September 2022, at the historic Audley Pleasure grounds Photo: Bob Crombie

This coal waste material will also need to be removed in the event of a fishway being restored in place of the Weir. Will NSW taxpayers be required to bear this cost? A cleanup will need to be done at some point. The need for a fish passage at that location has been advocated for by the NSW Department of Primary Industries Fisheries for decades.[10] To have polluted sludge released into the lower Hacking would be an ecological disaster, smothering seagrass and benthic organisms through the lower part of the river.

The Royal National Park, the Hacking River, and Port Hacking itself should not be subjected to the ongoing risk of spills from this mine, especially given the limited ability to remediate that we've seen to date.

As is, even if the maximum possible fines were levied for every spill and breach of prevention notices through 2022 these would be manifestly inadequate. Weighed against Peabody's net value, and revenue, such penalties are a insignificant, a trivial cost of doing business. Even if the maximum possible fines were applied these fines would be cheaper than what the company pays contractors to remove sludge from its holding dams. (In 2019 Peabody signed a three year contract for $14 million to transport coal wash reject.[11])

[10] https://www.dpi.nsw.gov.au/fishing/habitat/your-catchment/sydney-metro
[11] https://www.australianmining.com.au/news/sce-wins-metropolitan-coal-contract-with-peabody/

At Swallow Rock, Grays Point, 1 January, 2023. Photo credit Lily Meier.

Another important point to consider is **whether we can rely on this company to do the right thing**. Over the last few years Peabody has included multiple "Invalid sample" test results on their monitoring summaries submitted to the EPA.

In addition to the multiple "Invalid samples" there have been months where Peabody's testing claims no breaches were recorded, even when we know for a fact that coal sediment / waste material was released.

The tables below show the 2021 and 2022 summaries. Sampling from 2020 shows the same pattern.

METROPOLITAN COAL – ENVIRONMENTAL PROTECTION LICENCE MONITORING SUMMARY

Point 9* – The Clean Water Tank of the Water Treatment Plant				
Month	**Oil & Grease (mg/L)**	**pH**	**TSS (mg/L)**	**Exceedance (Y/N)**
Jan-21	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Feb-21	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Mar-21	<6	8.30	9	N
Apr-21	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
May-21	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Jun-21	<5	7.35	11	N
Jul-21	<5	8.40	8	N
Aug-21	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Sep-21	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Oct-21	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Nov-21	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Dec-21	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Licence Limit	**10mg/L**	**6.5-8.5**	**30 mg/L**	

**Note: The monitoring at Point 9 required by condition M2 is conducted by the licensee to determine compliance with the limits specified for Points 6 & 7 in condition L3.3.*
#Note: No water discharged to Camp Creek at time of sampling

[12]

With the table shown on the following page please note that the September 2022 monitoring results submitted show the company is compliant with the current EPL, even with the aborrent degree of pollution we saw in Camp Gully Creek and all through the Royal National Park that month. We saw coal sludge in the Creek in August as well. Again the company claimed this was within the allowable limits of their license to pollute.

[12] https://www.peabodyenergy.com/Peabody/media/MediaLibrary/Operations/Australia%20Mining/New%20South%20Wales%20Mining/Metropolitan%20Mine/Environmental-Protection-License-Monitoring-Summary-to-December-2021.pdf

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Jan-22	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Feb-22	<5	7.21	22	N
Mar-22	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Apr-22	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
May-22	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Jun-22	Invalid Sample#	Invalid Sample#	Invalid Sample#	N/A
Jul-22	<5	7.93	8	N
Aug-22	<5	8.07	22	N
Sep-22	<5	7.78	15	N
Oct-22				
Nov-22				
Dec-22				
Licence Limit	**10mg/L**	**6.5-8.5**	**30 mg/L**	

*Note: The monitoring at Point 9 required by condition M2 is conducted by the licensee to determine compliance with the limits specified for Points 6 & 7 in condition L3.3.
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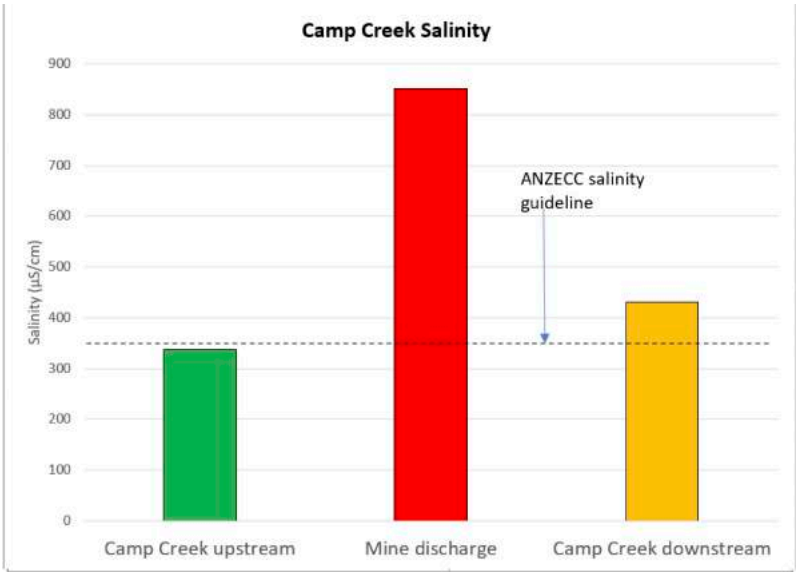
[13]

[13] https://www.peabodyenergy.com/Peabody/media/MediaLibrary/Operations/Australia%20Mining/New%20South%20Wales%20Mining/Metropolitan%20Mine/Environmental-Protection-License-Monitoring-Summary-to-September-2022.pdf

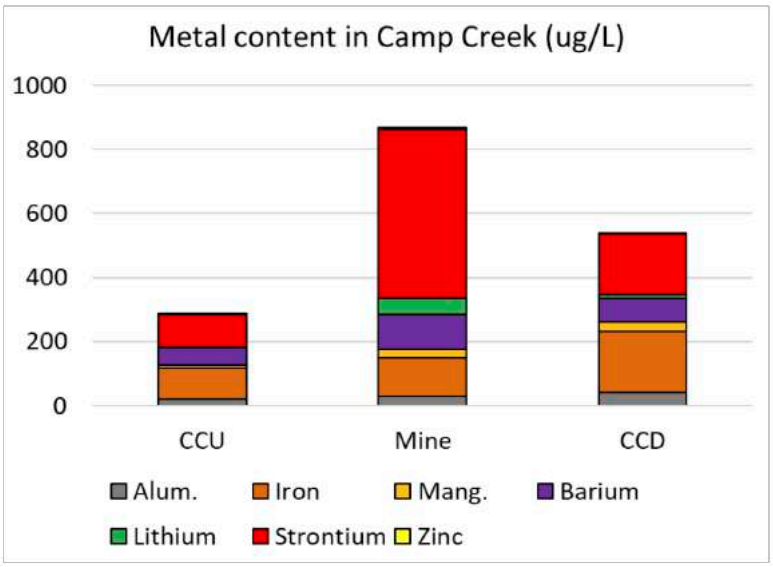
14 August 2022, at the confluence of Camp Gully Creek and the Hacking River, with black coal sediment running into the Hacking Photo: Bob Crombie

In addition to the obvious coal sludge in Camp Gully Creek, independent water testing by Dr Ian Wright on 14 August 2022 showed that Peabody's Colliery was discharging saline wastes at twice the rate of ANZECC salinity guidelines. The graph below shows salinity in Camp Gully Creek upstream of the Colliery, at the Colliery discharge point, and downstream. It had no authorisation from EPA to do this.

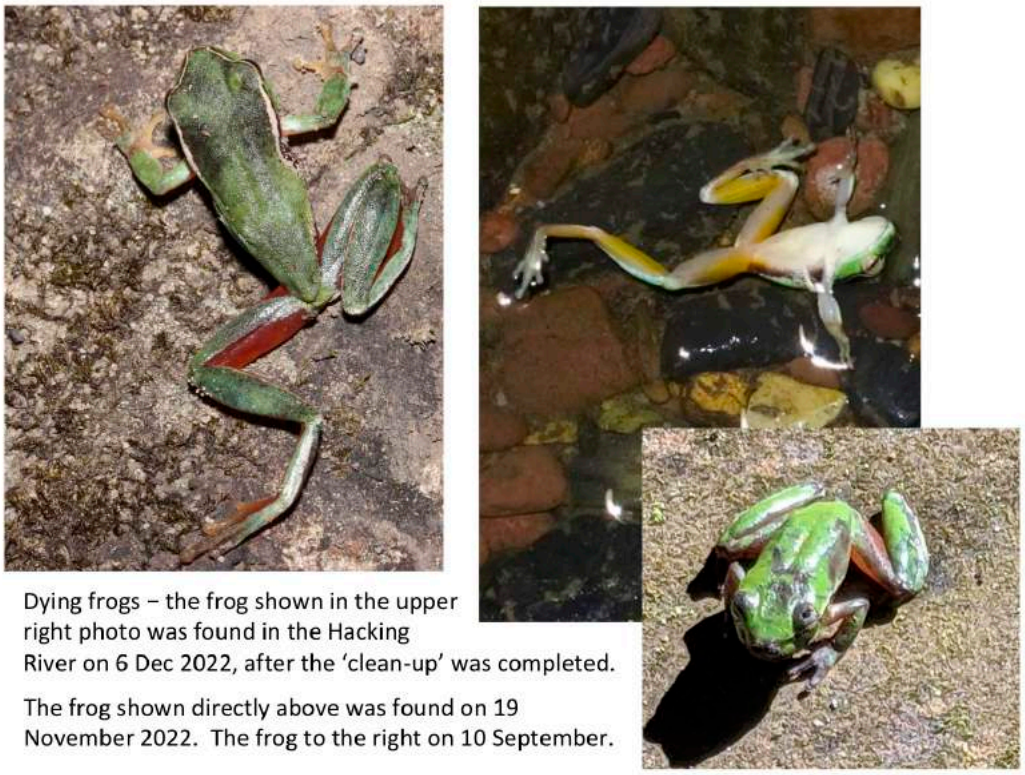


Subsequent testing by other independent researchers through late 2022 has shown consistently high salinity levels.

Dr Wright's 14 August test results also found increased levels of barium, lithium or strontium at the mine site, with levels substantially higher than found upstream. Peabody had no authorisation to discharge these metals into Camp Gully Creek.



Since the most recent pollution events Sutherland Shire Environment Centre members with higher degree qualifications in science and ecology have carried out surveys of the impacted areas. Dr Chad Beranek and freshwater ecotoxicology PhD researcher Shannon Kaiser have found dying frogs in waterways downstream from the mine. Frogs found in those areas had a diminished body condition compared to frogs in nearby control sites (streams nearby not impacted by the mine pollution).



Dying frogs – the frog shown in the upper right photo was found in the Hacking River on 6 Dec 2022, after the 'clean-up' was completed.

The frog shown directly above was found on 19 November 2022. The frog to the right on 10 September.

Another independent local research team led by Dr Andrew Brooks carried out informal surveys in October 2022 and found a "**significant impairment of the benthic macroinvertebrate community**" in Camp Gully Creek, and a marked reduction in the diversity of families of such organisms. They found no pollution-sensitive riffle beetles (Elmidae) at Camp Gully Creek, or mayflies (Leptophlebiidae, Baetidae, Caenidae).

Dr Brooks may have put in a submission to the EPA on his own account, but if not, the main findings of his preliminary assessment are shown below:

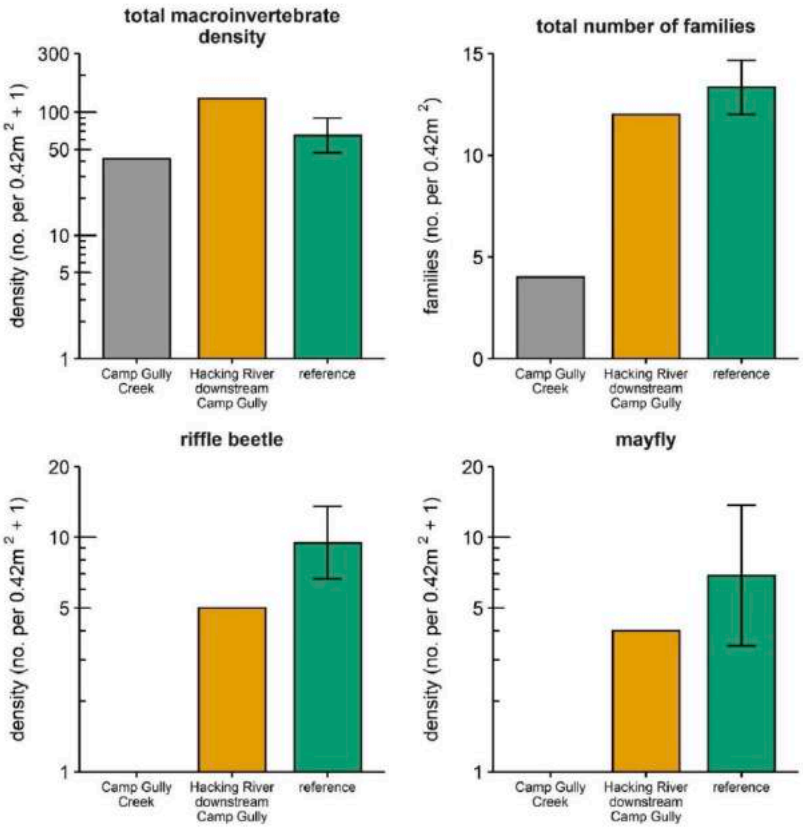
Main findings

Overall, our study indicated there was significant impairment of the benthic macroinvertebrate community in Camp Gully that was likely to be caused by the recent wastewater spill or from historical pollution events from Peabody Energy's Metropolitan Mine. This conclusion was based on the comparison of the Camp Gully benthic community with several reference sites (see Figure 2). Specifically,

- The diversity of families was reduced in Camp Gully with only 4 families collected compared to an average of 13.3 at reference sites,
- the total macroinvertebrate densities in Camp Gully were comparable with reference sites but comprised almost entirely of a single family of blackfly larvae (≈ 85% of individuals),
- there were no pollution-sensitive riffle beetles (Elmidae) or mayflies (Leptophlebiidae, Baetidae, Caenidae) collected at Camp Gully. In contrast, these families were present in the reference sites,
- the salinity in Camp Gully was 3 to 5 times higher than in reference rivers which may indicate an ongoing contamination problem (Table 1), and
- the depauperate macroinvertebrate community in Camp Gully was likely to be caused by the fine particulate coal material altering water quality and reducing habitat by smothering benthic surfaces and interstitial spaces between cobbles and small rocks. In addition to the loss of habitat, there would have been an associated loss of food resources (e.g. periphyton, small organic particles). Macroinvertebrates could also have been directly affected by the fine coal material damaging respiratory mechanisms and clogging feeding apparatuses causing mortality.

Table 1. Summary of key water quality characteristics at each sampling site.

	Sampling site	Temperature (°C)	Salinity (EC)	pH	Turbidity (NTU)
Potentially impacted	Camp Gully	14.7	1453	6.4	2.4
	Hacking R. d/s Camp Gully	14.7	728	6.7	3.4
Reference	Wilsons Crk	14.2	276	6.8	4.5
	Cawleys Crk	14.1	188	6.8	3.9
	Hacking R. u/s Camp	14.6	475	6.7	3.9

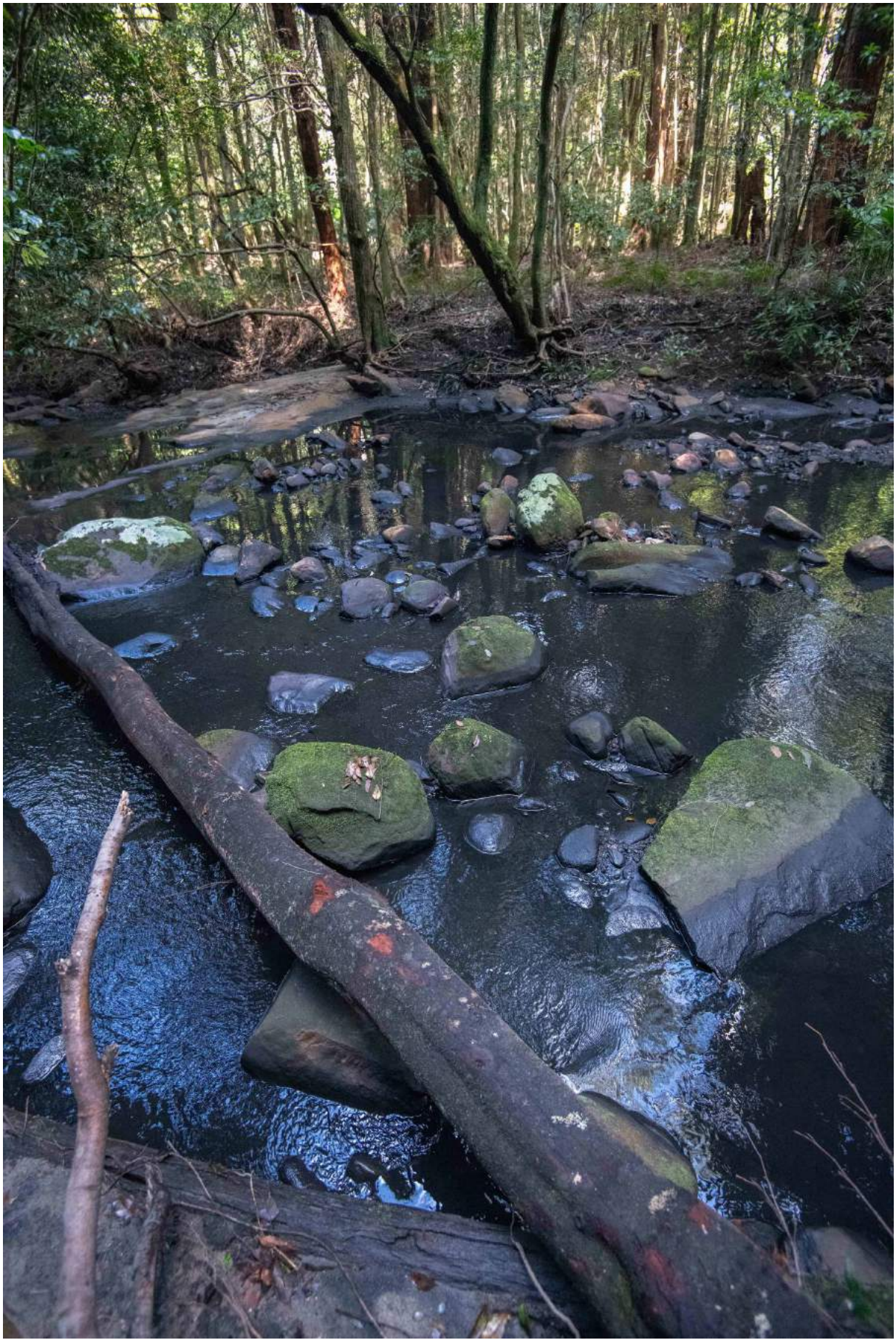


9 September 2022,
Camp Gully Creek, Sue Higginson MLC

Photo credit: Dr Catherine Reynolds

8 September - the Hacking River at Red Cedar Flat, kilometers down from the confluence of Camp Gully Creek Photo: Gary Dunnett EO, National Parks Association

Camp Gully Creek 7 September 2023. Photo credit Bob Crombie.



Camp Gully Creek 7 September 2023. Photo credit Bob Crombie.

Camp Gully Creek 10 September 2022. Photo credit Cooper Riach

The discharge over the last few years and the evidence from all the research mentioned above raises questions about **ongoing flow on effects through the ecosystem.**

The *National Parks and Wildlife Act 1974* requires national parks to be **managed in a manner that protects the integrity of ecosystems for future generations.** This means:

- Conserving biodiversity, maintaining ecosystem function, protecting geological and geomorphological features and natural phenomena, and

- Maintaining natural landscapes conserving places, objects, features and landscapes of cultural value and significance.[14]

Peabody's Metropolitan Colliery has shown it is unable to align its operation with requirements of the NPW Act. It has been unable to protect the ecological integrity of the Royal. This makes a strong case to cancel the license altogether.

16 September, the Hacking River at the upper causeway, near the bridge over McKell Ave
Photo: Bob Crombie

Another important point to note regarding the effectivity of the cleanup is that there is still a huge amount of coal on the Metropolitan rail siding. In 2009 EPA records show 10 tonnes of coal spilt from the railway siding into an "unnamed gully". No fines were levied, and no detailed reports of the cleanup or remediation have been forthcoming despite requests being made directly to Peabody, and questions asked in parliament requesting this information be made available.[15]

As documented by former Royal National Park head ranger Bob Crombie the coal material on the siding also washes into Camp Gully Creek.

How is this covered by Peabody's EPA 767, and what is the EPA doing to monitor this pollution which clearly comes from the mine? Will this material be removed?

[14] https://legislation.nsw.gov.au/view/html/inforce/current/act-1974-080#sec.30E
[15] https://www.parliament.nsw.gov.au/lc/papers/pages/qanda-tracking-details.aspx?pk=88006

Coal waste washed off the Colliery siding onto the Illawarra Railway line. View looking north, west side. In heavy rain there is nothing to stop this waste material flowing into Camp Gully Creek, as per the overhead satellite image below showing the proximately of the siding, the railway line, and Camp Gully Creek. Photo credit Bob Crombie November 2022.

Coal waste washed off the Colliery siding onto the Illawarra Railway line. View looking south, west side. There is nothing to stop this waste material flowing into Camp Gully Creek.

Satellite image of the Colliery, Peabody's Metropolitan railway siding, and the Illawarra rail line. This google earth image shows the proximity of the coal waste material on the rail line to Camp Gully Creek and the slope of the rail line toward the creek.

Coal material from the siding appears to enter Camp Gully Creek. See also the video: https://www.youtube.com/watch?v=aPAnA_wWvjI&t=8s

Our members strongly oppose this license being reissued.

The company has shown an ongoing lack of care in its operations and indifference to the environment it is operating in. By the measure of the *Protection of the Environment Operation Act 1997* the risk to the ecological integrity of the Royal is too great.

If the EPA does reissue the license there are a number of condition detailed below which should be applied. If these conditions are breached or another spill occurs the license should be immediately revoked. Fines and Prevention Notices have proven an ineffective deterrent in this case.

1. If the EPA does decide to reissue this license it must be **tightened to ensure only clean treated water is released into Camp Gully Creek, and no pollutants or waste material.**
2. If the license is reissued there must be **tighter limits and tighter monitoring for salinity, pH and turbidity**.
3. The Colliery should be required to **measure water quality continuously in all wastewater discharges,** as well as in the creek, both upstream and downstream of the mine. This monitoring **should occur in real time**.
4. The license must ensure **no coal fine sediment is allowed to be released into the creek**.
5. The license must ensure there are **discharge limits reducing the disposal of metals** in the coal mine wastewater (i.e. aluminium, nickel, zinc, barium, strontium and lithium etc) which act to damage or compromise the health of the creek.

6. Camp Gully Creek and the Hacking River must have an **ongoing assessment of ecological health** to ensure that the mine does not impair aquatic biodiversity. The Colliery should be required to fund quantitative **biological monitoring of Camp Gully Creek** using wastewater sensitive biota (e.g. macroinvertebrates) with a study design that includes reference sites in the Hacking River catchment and locations in Camp Gully both upstream and downstream of the mine. This monitoring should occur at least every three months in order to provide an assessment of any ecological impact and the trajectory of recovery.
7. **Full Emergency Disaster Recovery Plans** must be established. **No** preventative measures were put in place this year to stop the coal fine sediment waste flowing down the full length of the Hacking River. Remediating this damage, clearing away the fine coal sediment has proven extremely difficult, if not impossible.

We have so many other photos of the pollution not shown here. This EPL should be cancelled. Our iconic Royal National Park deserves better.

Please act to fulfil your mandate and ensure the environment here is protected.

Regards,

Dr Catherine Reynolds
Secretary
Sutherland Shire Environment Centre

19 September 2022
Coal sludge waste at Red Cedar Flats
1.57 kms south of Camp Gully Creek.

Photo credit: Glen Stephen Betts