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Nature Conservation Saves for Tomorrow

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NSW Office of Water,
PO Box2213,
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SUBMISSION REGARDING THE AQUIFER INTERFERENCE POLICY
'Draft NSW Aquifer Interference Policy comments'

1. General comments

1.1 The Society's interest

The Society is particularly concerned with the cumulative impacts of coal mining and now CSG on the sandstone aquifers of the Blue Mountains. An additional threat is provided by sand(stone) extraction for construction purposes. **The concerns relate principally to Newnes Plateau and the Western Escarpment, but in the longer term the damage to aquifers and linked surface water systems has implications for the western side of the Greater Blue Mountains World Heritage Area.**

1.2 The Society and RiversSOS

The Society is a group member of RiversSOS and supports the general content of its submission (dated 01/05/2012) regarding the need to fully protect water supplies. The Society particularly endorses the following statement by RiversSOS:

"We urge you to revise this draft in order to protect 3rd order and above rivers, to keep mining and CSG extraction outside drinking water catchment areas, and to keep mining and CSG extraction at a safe distance from major lakes and storage dams."

The Society considers these requested revisions to be of paramount and non-negotiable importance; natural river systems and principal water supplies should and must be sacrosanct.

1.3 Gross considerations

According to Section 1.2 of the Draft Aquifer Interference Policy (DAIP), the aim is to address high-risk activities accompanying open-cut and underground (coal) mining, CSG extraction and water-injection works, and any activities having the potential to contaminate aquifers or threaten their integrity. However, because of the proposed strengthening of the assessment of aquifer impacts through the *Environmental Planning and Assessment Act 1979*, certain State significant mining and coal seam gas developments will be exempt from the need to hold an aquifer interference approval.

The matter of State significant developments is expanded upon in Section 3.1 of the DAIP. Although there are various qualifications, the essential aspect is that the *SEPP (Mining, Petroleum Production and Extractive Industries) 2007* is to be amended so that the Minister for Primary Industries provides advice (to be made public, and based on 'minimal harm criteria' evaluated by NOW) during assessment of a State significant mining or coal seam gas proposal on possible aquifer impacts within highly productive groundwater beneath Biophysical Strategic Agricultural Land.

The Society finds it totally astounding that the net consequence of the DAIP and the above inputs by NOW to the assessment of a State significant mining or coal seam gas proposal is that focus is essentially restricted to Biophysical Strategic Agricultural Land. The only mention of Groundwater Dependent Ecosystems (GDEs) is in Section 3.3.1 p18 in relation to *"High priority groundwater dependent ecosystems…in Biophysical Strategic Agricultural Land, including karsts, as specified in the relevant water sharing Plan"*, and Table 1 p23. **'Non-agricultural' regions of high environmental sensitivity and values are seemingly divorced from this process.**

The Society's gross concern about the DAIP, its principal focus, and its direct/indirect interaction with the Department of Planning and Infrastructure may stem from misunderstanding. Perhaps 'non-agricultural' environmental aspects (including GDEs in such regions) will be addressed more generally in an Environmental Impact Assessment. But this raises the strange spectre of GDEs (and other environmental aspects such as groundwater depletion and surface water quality) being subject to different criteria in the one development application if the DA spans Biophysical Strategic Agricultural Land and 'non-agricultural' land.

In the context of this gross concern, the Society cites the environmental commitments by the Government in *Appendix A*.

2. Specific comments

S2.5: *"Emergency dewatering as allowed for under other legislation…"* is apparently exempt. Does this mean that emergency mine-water discharges can take place without approval? If yes, this is unacceptable. Such discharges can be in the order of many ML/day and have the capacity to seriously compromise the groundwater regime by extraction and the surface water regime in terms of the water quality of the 'receiver' streams.

S2.5.2(c): this is poorly expressed in that the footnote 2 says what the *"long-term average annual extraction limit"* is not! It would be far more useful to say what it actually is, particularly as many areas (including the Blue Mountains) have yet to be under a water sharing plan.

S2.5.2(c)(ii) and (d)(i): the selection of *"5 litres per second and taking no more than 3 ML per year"* as the upper limit for exemptions, is being extraordinarily generous. Many bores for commercial agricultural purposes would fall beneath this 5 L/sec limit.

S3.2 Aquifer interference approvals: it would seem that fraccing is not subject to an AIA*"…as this is regulated under other statutory instruments."* Yet *"…the actual process of hydraulic fracturing will require an aquifer interference approval."* This is cumbersome and could be affected by amending the pertinent statutory instruments. The introduction of BTEX or a range of other chemicals designed to promote efficient fraccing has the capacity to contaminate aquifers. **BMCS contends that all hydraulic fracturing, with or without the use of chemical fraccing agents should be subject to an AIA.** This will avoid companies promoting the use of 'harmless' agents not covered by the statutory instruments, using paid consultants to support the claims, and thereby placing an onus on opponents to demonstrate that the agents cause damage. **In other words, the Society wants the Precautionary Principle to apply.**

S3.3: the *"account for, avoid/prevent, and remediate"* approach sounds impressive, but effectively acknowledges that the levels of current research are incapable of meeting the level of certainty desired by proper environmental and agricultural protection. Thus, preventing ***"…any more than minimal harm*** *occurring to any water source, their dependent ecosystems or other water users…"* demands to know how such *'minimal harm'* will be determined. **BMCS can envisage all the carefully worded consultants' reports stating that *'more than minimal harm is extremely improbable'* and *'the likelihood of unforeseen impacts is negligible'.*** And then, when the unforeseen problem arises, there will be the usual discussions with government about the methods of practicable remediation and whether more harm than good might eventuate. The bottom line is clear in item 4: *"The remediation mechanism is to remain in effect until the Minister is satisfied that it is no longer required to maintain the impacts* ***at or below the predicted levels.****"* **BMCS contends that this wording clearly envisages unforeseen degrees of impact on *'dependent ecosystems'*. This means that an AIA will be granted with sufficient flexibility such that the mess will be dealt with as and when it is demonstrated beyond reasonable doubt; even the consultants will acknowledge it!**

What financial penalties will be imposed to discourage *'suck-it-and-see'* exploitation of such ill-chosen wording? This is partly addressed in Section 4.1 and is largely concerned with remediation rather than penalties reflecting punitive concepts. Most financial penalties are in the 'Mickey Mouse' category when placed in the context of profits gained from the 'lapses' – the reality should be that responsibility is identified and provision be made for Senior Management or Directors to be sent to prison.

S3.3.1 Risk Management Zones: these are unbelievable! They are an attempt to pigeonhole behaviour without knowledge of the actual circumstances. In relation to 'Highly Productive Groundwater' in Table 1, what is magical about 100m below the Biophysical Strategic Agricultural Land and why are lateral buffers not stipulated?

The Society appreciates that the problem is extremely complex in that the policy is designed to demonstrate that government cares for agricultural lands and their related ecosystems; but at the same time it is designed to **not prevent** mining and CSG exploitation. Unfortunately, it fails in the case of the former, but succeeds in the case of the latter.

Even if one accepts these rather arbitrary RMZs, it is clear that various forms of exemption are countenanced in ways embedded in convoluted language. For example:

> *"An aquifer interference approval will not be issued for an activity that proposes to directly operate within a* ***Water Protection Zone****, except in the Water Protection Zone that relates to Highly Productive Groundwater."*
>
> *"In the Water Protection Zone that relates to Highly Productive Groundwater, an aquifer interference approval will not be issued for mining or petroleum activities that propose to operate within this zone, subject to the exemptions below. In effect, this means that the footprint for an open cut mine, longwall panels (2nd workings), any other excavation, and any activities relating to coal seam gas that are within this zone will not be allowed subject to the following exceptions:*
>
> - *Open cut mines that are not State significant development under the EP&A Act - where the groundwater works' yield rates and salinity can be returned to the Highly Productive Groundwater criteria. This requirement will only be necessary in those areas where this groundwater is overlaid by land that is identified as requiring post closure rehabilitation in accordance with the relevant development consent;*
> - *Excavations for mine access and ventilation shafts for mining activities that are located beneath the Water Protection Zone; and*
> - *Coal seam gas related activities that are required to access reserves that are beneath the Water Protection Zone. Activities that recharge aquifers within the Water Protection Zone (as an alternative to using evaporation ponds for the disposal of production water) will also be considered for approval."*

By now, the reader has been taken through a sequence of 'will-not-be-issued/except' cycles for the WPZ, and this process is repeated for the LIZ. Then there is another hurdle in that the extent to which exemptions apply is subject to meeting minimal harm requirements.

Frankly, the Society sees this complex gobbledegook as being a form of camouflage masking the Government's lack of will to truly protect valuable agricultural and environmentally sensitive lands.

S3.3.1 Table 1 p23: reference is made to GDEs and the suggestion is for a 40m WPZ, and an Inner Risk Management Zone (IRMZ) extending 200m laterally and up to 200m vertically. The reasoning behind this is totally unclear. It seems to suggest that Longwall mining at more than 200m below the GDE, or open-cut mining more than 200m laterally from the GDE can have no impact. Studies in relation to water losses at Thirlmere Lakes and swamps on Newnes Plateau demonstrate the inadequacy of the WPZ and IRMZ constraints. **GDEs related to swamps which are recognised under State and Federal legislation should receive far better levels of protection.**

S3.3.2 Minimum harm criteria: the Society is extremely concerned with this approach. The quantification of 'minimal harm thresholds' is largely unrealistic, particularly in the context of GDEs; this is partly recognised in the comments made about adaptive management and more science-based data in the following excerpt:

> *"An aquifer interference approval, will either be exempted or will only be issued where it can be demonstrated that adequate arrangements are in place to ensure that no more than minimal harm will be done to the aquifer or its dependent ecosystems…This Policy will adopt an adaptive management approach to the minimal harm criteria which means they will be regularly reviewed and updated based on scientific information and experience."*

The Society's concerns include:

(a) The apparent belief that some level of harm to GDEs is acceptable – why should this be? The simple fact is that **'striking a balance' should not mean accepting damage – the balance could be achieved by stipulating areas of 'no go' versus areas available for exploitation – regrettably the draft policy opts for obfuscation and cumbersome uncertainty.**

(b) Adaptive Management is very popular because it sounds as if the user knows what he/she is doing. Unfortunately, it fails to acknowledge the Precautionary Principle. Minimal harm criteria are set at a minimalist level and will only be increased when their use has failed to prevent damage. The flip side of this is that, if damage fails to eventuate, the criteria will be relaxed until they become marginal. This almost sounds sensible, but the big problem is that impacts are likely to be site-specific and so the research needed to understand the variations must similarly be site-specific. **This inevitably creates a situation where research trails the practice, thereby fostering a trial and error consequence.**

(c) The types of impact recognised in section 3.3.2 as things to be taken into account have resulted in the 'default thresholds in Appendix 1', yet the research basis for the approach is not disclosed. Then, the document suggests that: "*Water sharing plans will be amended to include definitive minimal harm rules based on these default thresholds.* ***Proponents will need to demonstrate that they comply with the minimal harm rules in the relevant water sharing plan, on both a cumulative and site specific basis, within the zone in which they will operate and in all other zones.***" **The Society suggests that this is a bureaucratic nightmare leading to numerous consultants' reports designed to give Government 'comfort' through an appearance of rigour and even-handedness. The practice will be that coal mining and CSG extraction will bypass all this in terms of being State significant developments and using 'appropriate' terms of reference for PACs.**

(d) Finally, who is going to produce all the science-based research to make this aquifer interference policy actually work? Without it, the policy becomes one of 'suck-it-and-see' risk management

S3.3.3 Additional criteria: these are well-stated in relation to CSG, but apparently disregard the fact that assurances are already provided by industry and its consultants to the effect that 'none of this will happen'. Yet the disregard of process, over-confidence, economically driven shortcuts, and sloppiness (coupled with 'sods' law) mean that **the assurances fail the reality test.**

Although there is no mention of coal mining in this section, there should similarly be additional criteria. Longwall and open cut coal mining continue to practice risk management with Government's blessing.
S3.3.4 Remedial action: unforeseen or otherwise – **the Society commends the saying that 'prevention is better than cure'.** This is particularly so when the 'cure', or so-called remediation, is unable to rectify the damage.

Dr Brian Marshall,
For the Management Committee ***2 May, 2012***

Appendix A

ENVIRONMENTAL PROTECTION COMMITMENTS BY GOVERNMENT

(a) **Minster Hazzard in response to a question by Clover Moore in Parliament on 25 November 2011:**

"We are not only trying to protect our strategic agricultural lands, our vigneron lands and our equine land; we are also trying to ensure that our high conservation lands are protected as well. In her question the member for Sydney mentioned the Pilliga Forest and the ***Gardens of Stone****, which are both amazing areas of high conservation value.* ***I can assure the member that we intend to protect all areas of high conservation value through the process that we are developing.****"*

www.parliament.nsw.gov.au/prod/parlment/hansart.nsf/V3Key/LA20111125021?open&refNavID=HA8_1

(b) **Media Release, Minister for Planning and Infrastructure (21 May 2011)**

Minister Hazzard, said, *"Prior to the election, the NSW Coalition announced that it would introduce a Strategic Regional Land Use Policy to strike the right balance between our important agricultural, mining and energy sectors,* ***while ensuring the protection of high value conservation lands.*** *We are now delivering on that commitment."*

(c) **Strategic Regional Land Use Policy: Triple bottom line assessment to protect our regions**

The NSW Liberals and Nationals believe in a **triple bottom line** approach to development.

This will achieve a better balance in the growth of regional areas through a combination of:

(1) strategic land use planning to better understand the constraints to, and opportunities for growth;

(2) reforms to the planning assessment process to improve monitoring, compliance and cumulative impact assessment;

(3) reforms to mining and coal seam gas legislation to protect strategic agricultural land and associated water resources; and

(4) tougher planning assessments while strategic land use plans and planning reforms are developed.

T**his approach will ensure that regional NSW can enjoy the benefits of economic growth while maintaining our critical agricultural and environmental assets.**

The NSW Liberals and Nationals will prepare strategic land use plans for the State on a regional basis, using a multi layered approach….**The process will identify the best places for agriculture, mining, coal seam gas extraction, viticulture, thoroughbred breeding, conservation, urban development and all other types of land uses in regional areas.**

Strategic land use plans will be prepared using **triple bottom line** assessments of the **environmental**, social and economic values in regional areas.

These assessments will inform our decisions about the best way to use land and **identify the environmental, social and economic values that need to be protected**. In some cases, this will involve trade-offs between two land uses competing to use the same area of land.

The NSW Liberals and Nationals believe that **agricultural land and other sensitive areas exist in NSW where mining and coal seam gas extraction should not occur**.