NW Alliance presentation to the Senate Inquiry into the EPBC Amendment Bill 2013 - 17.4.2013

Dear Sir/Madam;

Thank you for allowing our group to make a verbal submission to the Senate Inquiry re the EPBC water trigger. I have attached media releases regarding the community surveys that we are running in the region plus a blank survey form. I have also attached material I had prepared but did not present.

CSG Free Initiative Survey Material and Media Releases;

1. Gasfield Survey Form with survey question
2. Media Release regarding the Combined CSG Surveys of Liverpool Plains farmers - Tide Turns
3. NW CSG Free areas to 16.4.2013 (Google Maps of the surveyed area)
4. Media Release Mullaley Votes 98% CSG Free
5. Media Release - Pine Ridge
6. Media Release - Blackville
7. Media Release - Bundella

Verbal Submission Material

1. A written copy of my introductory comments (which I didn't get to make)
2. Ministerial Briefing Notes re Stygofauna referred to in my introductory comments

Regards
Phil Laird

SURVEY – ALL RESIDENTS 16 YEARS AND OLDER ON THIS ROAD

NOTE – ONE PERSON PER ROW

Ideal if you work methodically down your road. Keep the survey form with you.

No---one home? -> Leave the DVD & leaflet with your name & phone number.

Write their house number in the blank row, so you know to return to that house to survey.

This is all about conversation (avoid 'shortcuts' that cut out personal communication).

Locality Co-ordinator:	Road Co-ordinator:

PERSON WHO CONDUCTED SURVEY INFORMATION **Date:** _____

NAME: _____

ADDRESS: _____
(Street Number and Name) (State) (Post Code)

EMAIL: _____

PHONES: _____
(Land line) (Mobile)

DO YOU WANT YOUR ROAD/LAND GASFIELD FREE?			INSERT COMPLETE ADRESS HERE				Optional For Those Who Want to Be Kept Up To Date: Contact details will only be used to keep respondents up to date on coal seam gas issues by your regional group or Lock The Gate Alliance		
			Locality	State	Post Code	Street Name			
YES	NO	NOT SURE	PROPERTY NUMBER	PERSON'S NAME IN CAPITALS			EMAIL ADDRESS	PHONE Land Line	PHONE MOBILE

Media Release
17.4.2013

Tide Turns - Half a million Hectares on the Liverpool Plains Protected from CSG

Communities across the North West of NSW have come together to protect their groundwater, farmlands, urban areas and the environment in which they live from Coal Seam Gas mining. A simple survey is being conducted “Do you want your land and road CSG Free?”

“With an overwhelming majority of 95.9% of community members rejecting CSG across local districts comprising 515,000 Ha on the Liverpool Plains, the results are pouring in. More results are expected soon.” said Phil Laird from the Lock the Gate Alliance.

“Road signs that state “CSG FREE, Protected by the Community” are being raised on our regions roads as house by house, road by road, community by community the people of the North West declares the region to be off limits to Santos and their drilling program for coal seam gas” he said.

“The ‘People Power’ within these communities is leading on the issue of Coal Seam Gas and they stand strongly; committed to their results” said Megan Khun from SOS Liverpool Plains.

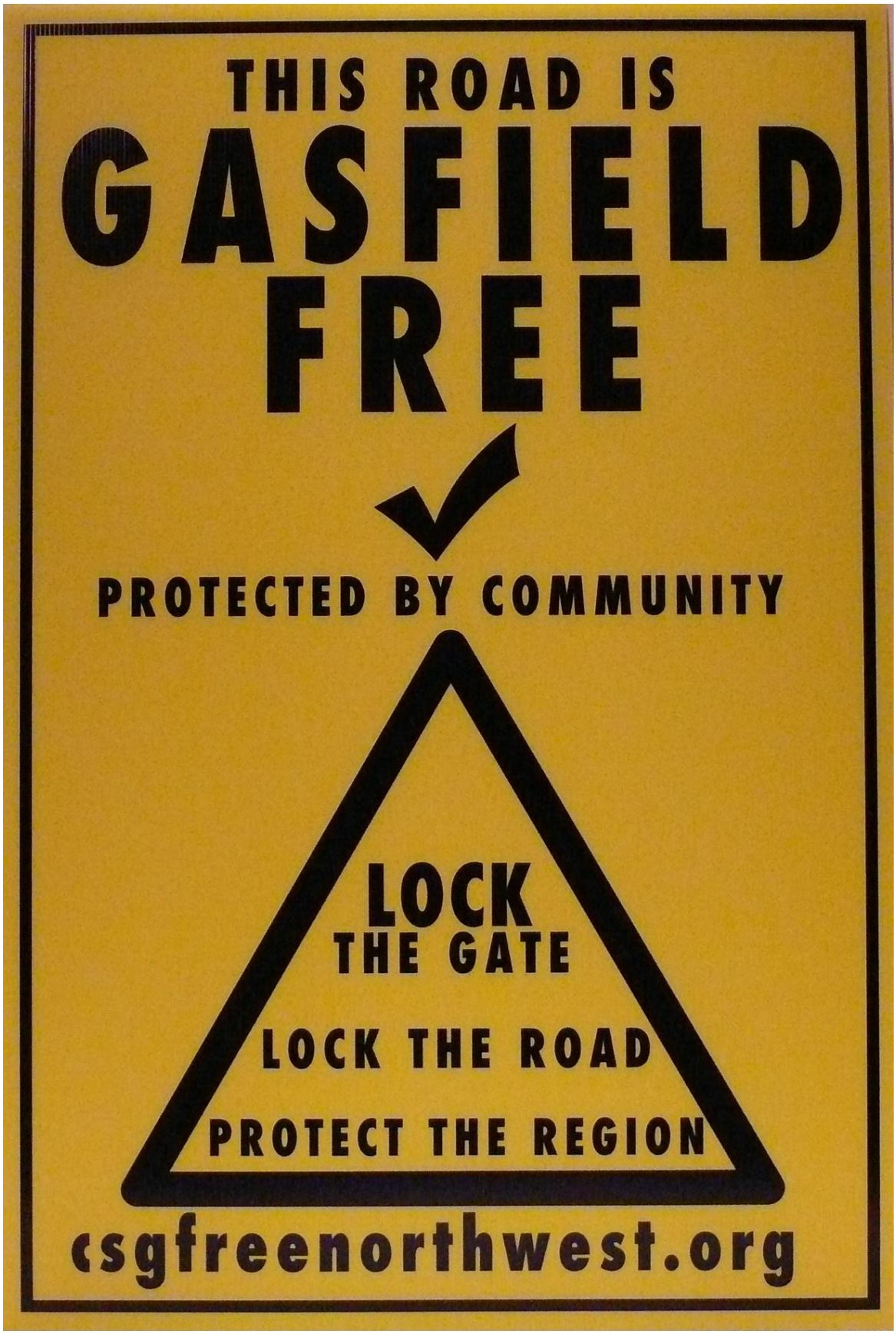
“Since the launch of the CSG Free Initiative just prior to Christmas, we have had an amazing response from the residents of Mullaley, Bundella, Blackville, Pine Ridge, Warrah Creek and Spring Ridge” she said. “Wandobah and Caroona group will soon follow with communities keen to start.”

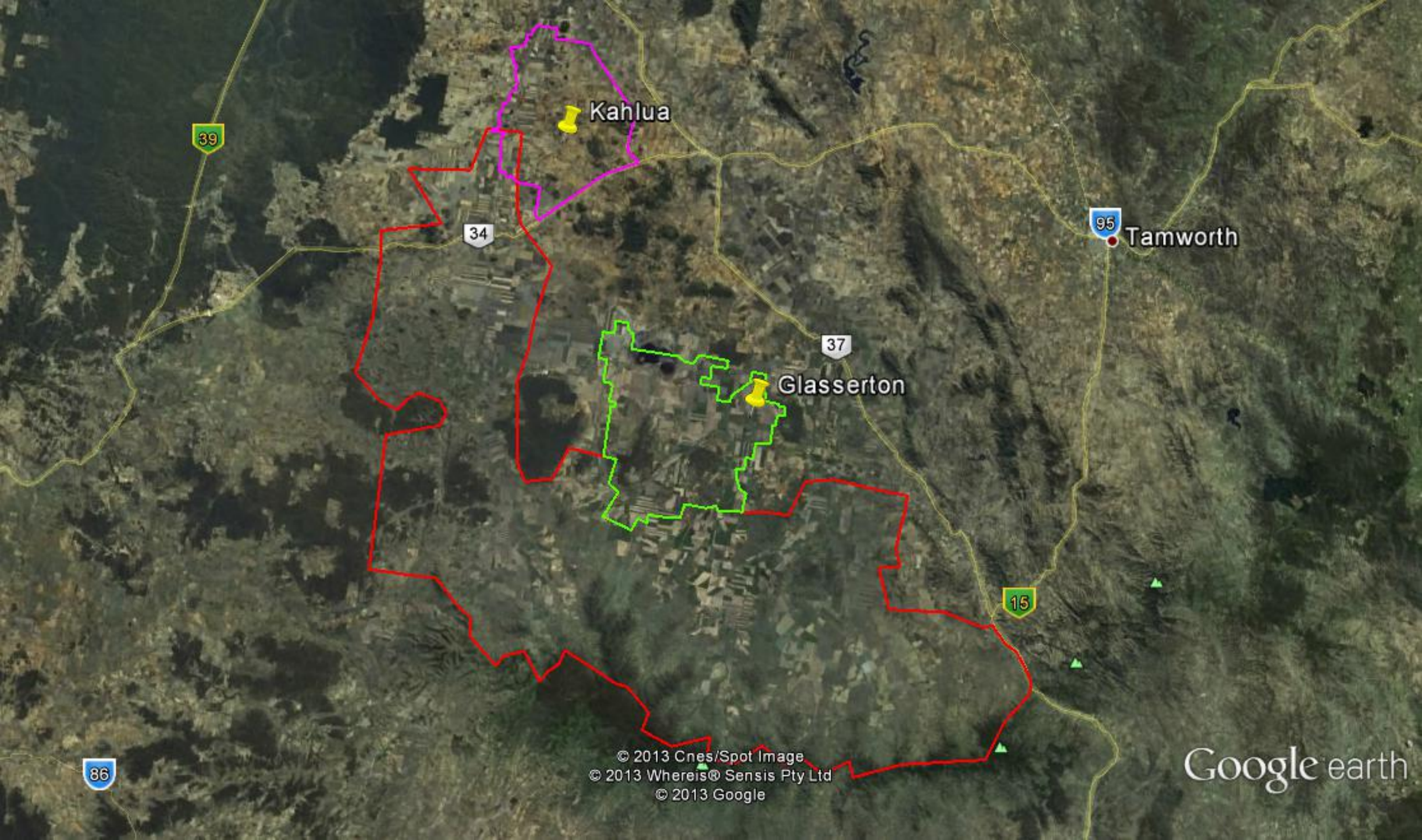
“The process is catching as people can see that a simple action can have powerful results. Surveys are being finalised at Mary’s Mt right next to Santos’s pilot well at Kaluha and a similar outcome is already evident”

“The success of the Gurley region locking up in PEL 470 and the rollout of community surveys across the Liverpool Plains, have led to meetings being held in Coonamble to survey the western areas” said Anne Kennedy from the Great Artesian Basin Protection Alliance.

“Our wonderful Local Council has put in place a moratorium against the development of CSG in the Shire and the community survey is a great way to support their position.” she said

“The question has to be asked ‘If Santos isn’t welcome, why are they still here?’ No means No.”


THIS ROAD IS
GASFIELD
FREE
PROTECTED BY COMMUNITY
LOCK
THE GATE
LOCK THE ROAD
PROTECT THE REGION
csgfreenorthwest.org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Google earth

Media Release 18th February 2013

Mullaley Votes 98.5% to Declare The Area 'Coal Seam Gas Free'

The results of the first community survey on coal seam gas in the north-west region have returned an overwhelming vote for the Mullaley area to be declared coal seam gas free.

Local people have surveyed every landowner and resident along all the rural roads and villages from Mullaley to Tambar Springs over the last two months, with 98.5% voting to declare the area 'CSG Free' .

On Friday evening at the Mullaley Hall, landowners and residents celebrated the results and presented declarations of their CSG Free roads to Councillor David Quince Gunnedah Shire Council and Anne-Louise Capel Warrumbungle Shire Council - with the request that the declarations be handed to the Mayor of Gunnedah and Coonabarabran Councils.

Spokesperson Robyn King stated that "98.5% is a great result by any standards. When it comes as the result of a survey asking 'Do you want your road/land gasfield free?' And 98.5% of people survey said YES, it is an amazing result."

The survey , based on an approach that has been applied successfully in the Northern Rivers, provided the community an opportunity to speak out against CSG in this region.

A large crowd gathered in the Mullaley Hall on Friday night to eagerly await results of the survey. Loud applause and cheers erupted when the result was announced. Some people were visibly moved to know the extent of support in the district.

"The survey has proved a wonderful way of uniting our community. We know we will stand together against CSG. The declarations that were handed to the local councillors said it all '*…this road is gasfield free. Protected by the will of the community*'" Robyn King said.

Residents of each road surveyed were presented with a sign to be erected clearly stating that this road/land is gasfield free. More celebrations are planned as each sign is erected along the many roads surveyed.

"Santos have stated that they will not force land access. These declarations send a very clear message to Santos and all levels of government – we don't want coal seam gas and we are determined to protect our land and water" Robyn King said.


GASFIELD
FREE
PROTECTED BY COMMUNITY
LOCK
THE GATE
LOCK THE ROAD
PROTECT THE REGION
csgfreenorthwest.org


THIS ROAD IS
GASFIELD
FREE
PROTECTED BY COMMUNITY
LOCK
THE GATE
LOCK THE ROAD
csgfreenorthwest.org
98.5


HONOUR ROLL
THIS ROAD IS GASFIELD FREE
PROTECTED BY COMMUNITY
LOCK THE GATE
LOCK THE ROAD
PROTECT THE REGION
ARMS


THIS ROAD IS GASFIELD FREE
PROTECTED BY COMMUNITY
LOCK THE GATE
LOCK THE ROAD
FARMS
NOT
GAS
98%


FARMS
NOT
GAS
98.5%
GASFIELD
FREE
Farms
Not
Gas


FARMS
NOT
GAS
98.5%

MEDIA RELEASE 16 APRIL 2013

Pine Ridge Energised by People Power

Last night, the Pine Ridge Community's Coal Seam Gas/Coal Mining Survey results were celebrated by many at their local hall, with a resounding 97.2% of residents agreeing that they *"want the roads and their land to be coal seam gas and coal mine free."*

This is one of five communities surveyed so far across the Liverpool Plains and the first community to be jointly surveyed for both Coal Seam Gas and Coal Mining. The Pine Ridge area contributes to the valuable food bowl of the Liverpool Plains and now their roads and land are declared CSG and Coal Mine Free by "The Will of the Community".

"Pine Ridge surveyed 151 residents: 144 were in agreement , 4 were not sure; and 3 chose not to respond" said spokesperson Prue Lee, who went on to say "Not one "***No***" was recorded in whole Pine Ridge area to the question *"Do you want your Land/Road GASFIELD and COAL MINE FREE"*.

"This result reinforces the community concern and angst regarding the development of coal seam gas and mining in this region," Prue Lee said.

"Liverpool Plains residents over the last 200 years have been developing and nurturing this valuable food bowl" said Lisa Hill. "It is vital that we protect this critical industry for our families and our future." Lisa went on to say "Plundering this critical resource for a short term gain endangers Australia's long term productive capability."

Prue Lee also said "The Liverpool Plains is one of the richest agricultural resources in Australia. This community stands firm in their opposition to Coal Seam Gas and Coal Mining."

Local community member Mally Carter questions "Why are the horse racing and wine industries considered "critical" and thus protected, when the "Liverpool Plains", this magnificent and essential food bowl for all Australians is not protected? This simply defies logic!!"

While Deputy Mayor Col Stewart and Councillors Mary Roberts and Ken Cudmore were present, many serious questions obviously still remain unanswered by the Coal Seam Gas and Coal Mining Industry and by all levels of Government, and the community want answers to those questions before any further activity is allowed.

"We need to learn from the disastrous facts coming out of Queensland and not rush into anything that would compromise the health of our communities, our land, our water and our environment." "The people clearly insist on this" Megan Kuhn said.

MEDIA RELEASE 02.04.2013

The Blackville community has become the third community on the Liverpool Plains to declare it coal seam gas free. A simple survey asking community members if they would like their roads to be coal seam gas free resulted in an overwhelming 96.9% of respondents declaring emphatically that Blackville must be a CSG Free Community. Clearly this means that Santos has no social license to operate on the rich agricultural country of the Liverpool Plains.

Deputy Premier Stoner's extraordinary announcement in February that CSG extraction is "dangerous" and would "devalue his property" resulted in a 2km buffer zone around residential areas. This has not been extended to include the farming community.

The Blackville community has taken a strong united stand against the CSG industry. Following 4Corners revelations of government and industry collusion, lack of scientific rigour and the devastating impacts of this industry, the move to close the Blackville community to CSG development is timely and necessary. This is a strong message to Santos and government that the CSG industry is not welcome in this highly productive food producing area.

MEDIA RELEASE 11th March 2013

Liverpool Plains again celebrates as 97% of Bundella Support Declaring Their Area 'Coal Seam Gas Free'.

The Bundella Hall, heart of the picturesque and productive Bundella valley on the Liverpool Plains, was the venue for Friday evening's Community Celebration proudly attended by a large number of local landowners and residents.

This gathering was the culmination of a community survey which was activated in early January, genuinely seeking the view of all residents within the Bundella area on the critical issue of coal seam gas.

"The overwhelming response of 97% saying "YES" to the survey question "Do You Want Your Land/Road GASFIELD FREE", not only indicates a huge result but clearly shows locals will not tolerate CSG in our community", spokesperson Megan Kuhn said.

The community were pleased that Mayor Ian Lobsey, Deputy Mayor Col Stewart, Councillor Andrew Hope from Liverpool Plains Shire; Mayor Peter Shinton and Councillor Anne-Louise Capel from Warrumbungle Shire; and Councillor David Quince from Gunnedah Shire also attended Friday's celebration.

Declarations for each of the CSG Free Roads stating " …. *This road is gasfield free. Protected by the will of the community"* were presented by a resident of that road to Mayor Lobsey or Mayor Shinton during the celebration.

"It was an ideal opportunity for the Councillors to witness the broad based knowledge locals have on this issue, and our strength to stand together and support each other as we **Declare our area 'CSG Free'**. It was abundantly clear that Santos have neither a moral or social licence to operate in the Bundella Community and we are clearly 'Not For Sale'," stated community member Simon Thompson.

Megan Kuhn said “We adjoin the 98.5% Declared CSG Free Area of Mullaley and this is a wonderful expression that community are also becoming united beyond their immediate area. It shows this process is building and spreading from community to community, as we stand against this invasion which also “poses health risks and property devaluation”, as recently pointed out by Deputy Premier Andrew Stoner himself.

In the week when Federal Member for New England Tony Windsor said “This process may have little legal power, but has strong political power”, the community’s message is expected to continue all the way through each level of Government, clearly demonstrating they are determined to protect their land and water.

Local residents left the celebration focused and positive, with their “ … Gasfield Free, Protected by Community …” road signs which will now be erected on each of the roads surveyed.

Megan Kuhn acknowledged “What a beautiful feeling within our community as a result of this survey process. Knowing 97% support being Gasfield Free confirms we are a united *farming* community and reaffirms our determination to support each other!”

“Gasfield industrialisation of the land cannot coexist with our farming businesses, and is clearly not welcome here!” Megan Kuhn said.

NW Alliance presentation to the Senate Inquiry into the EPBC Trigger – 17.4.2013

My name is Phil Laird. I am a beef producer from the Maules Creek district 50 kms east of Narrabri in the Northwest of NSW. I represent the NW Alliance, an umbrella body of 30 community and environment groups concerned about the development of coal and CSG in the North West of NSW.

This morning we announced surveys that 95.9% of Liverpool Plains Farmers who mange 515,000 ha of farmland across 7 farming districts answered yes to a simple survey – "do you want your land and road CSG Free?"

The Alliance welcomes the passing of the Water Trigger amendments to the EPBC Act in the lower house including the removal of the bilateral agreements in relation to water. This is important because State Governments are hopelessly conflicted in relation to royalties. In states such as NSW, Planning has devolved to an approval system and not a planning system. It is incapable of saying no.

The district of Maules Creek is a case study regarding the impacts to ground water from coal mining and CSG. The typical depth of a stock and domestic groundwater bore is 15 m with approx 1 – 10 m of standing water level depending on the season. This is directly threatened by mega tonne opencut coal mines in the Leard State Forest to a depth of 320m.

The independent Namoi Water Study has indicated that we can expect an average 5 m reduction in our water table due to these mines. This has serious implications in times of drought.

The drawdown is detrimental to farmers and our environmental assets such as springs, permanent waterholes, groundwater dependent fauna and flora. Ground water modeling in the Leard Forest area immediately next to the open cut mines shows that reductions of 10 to 20m of groundwater is expected and this threatens the viability of the trees in the remaining forest with the flow on affect for all flora and fauna in that area.

In relation to Whitehaven's proposed Maules Creek Coal Project and Tarrawonga Mines, the state government has approved mine rehabilitation plans that leave final voids that will fill with toxic coal seam water. The company successfully argued that backfilling the void wasn't financially viable to remediate the sites.

The pit water will gradually increase in toxicity over thousands of years as an evaporative pump process draws in water from the coal seams including heavy metals, salts etc into the pit void and evaporates that water to the atmosphere. The impact will be to permanently reduce the water table in the district and impact the remnant Box Gum Woodland in the Leard Forest.

The Maules Creek alluvial aquifer is home to a subterranean ecosystem with prehistoric creatures known as "Stygofauna" who are dependent on water levels and water quality remaining within seasonal variances. Escalating climate change due to the burning of the coal from these mines will place these ecosystems at further risk.

Our community has applied twice to list the "Stygofauna of the Maules Creek Alluvial Aquifer" as a threatened ecological community under the EPBC Act but has not been successful. Our scientific advice shows that mining could cause serious impacts to this ecosystem.

I will provide the committee with our Ministerial briefing paper regarding the listing application. Thank you.

Recommendations:

1. Final Voids for large coal mines that permanently alienate water available to agriculture and the environment are backfilled.
2. Voids cannot be exempted due to "economic arguments" as conditions and climate change over the life of the void.
3. Cumulative impacts to water that take in catchment capacity and other water uses are considered.
4. "Significant impact" definition to include aspects of water quantity and water quality

5. Water Modelling be “ground truthed” by Departmental staff and not accepted by the companies consultants.
6. Current EPBC ACT penalties for false and misleading information provided for the purpose of a EPBC approval be dramatically increased.
7. Baseline studies are required for water quantity and water quality prior to project commencement
8. Develop legislative or policy guidelines around the baseline benchmarks
9. Bio Regional Assessments that look at regional impacts be fast tracked to establish if regions should be ruled off limits to coal and CSG.

Maules Creek Community Council Inc

5 December 2012

Attn: Minister Tony Burke
Minister for Sustainability, Environment, Water, Population and Communities
PO Box 6022
House of Representatives
Parliament House
Canberra ACT 2600

Re: Stygofauna

Dear Minister;

Thank you for meeting with members of the Maules Creek Community Council (MCCC) and the Northern Inland Council for the Environment last week.

In response to our meeting with you, we have prepared a briefing note that provides an overview of our 2011 EPBC Nomination for the Groundwater Dependent Ecosystems (GDE) of the Maules Creek Alluvial Aquifer.

It is the view of the MCCC that the GDE of the Maules Creek Alluvial Aquifer are under imminent threat from mining as there is;

1. A fine balance between existing groundwater extraction and recharge
2. Approvals of massive new coal mines and coal mine expansions in the area that are yet to commence groundwater extraction.
3. Modeled cumulative impacts in the shallow alluvial aquifer of a 5m drawdown adjacent to Maules Creek and 1m drawdown further up the valley due to that mining
4. Existing and new coal and CSG exploration leases that overlay the entire alluvial aquifer
5. Further identification of potential coal mines in the Maules Creek Alluvial Aquifer contained in the Strategic Regional Land Use Policy (SRLUP) and the Namoi Catchment Water Study.
6. Insufficient quantity and quality of the underlying science in relation to the planning conditions imposed by the Planning NSW regarding GDE of the Maules Creek alluvial Aquifer. For example, ***GDE's were not mentioned at all in the Maules Creek Coal PAC Report. (PAC 2012)***

We recommend that you commence;

1. Emergency consideration of the listing due to immediate threats from open-cut coal mining
2. Special consideration and application of the precautionary principle given that the listing has been held back to date only by lack of knowledge
3. That the IESC is required to fully and thoroughly assess the impacts of proposed mines on the endemic stygofauna of Maules Ck.

Should you wish have any queries in relation to this matter, please do not hesitate to contact me.

Yours sincerely,

Phil Laird
Maules Creek Community Council

STYGOFAUNA

Ministerial Briefing for Tony Burke

December 5, 2012

Groundwater Dependent Ecosystems of the Maules Creek Alluvial Aquifer. Ref No.: 2011/01583

Submission by: **Maules Creek Community Council Inc**

Contents

Title Photo:

Stygofauna being sampled from a bore in Maules Ck, Alluvial Aquifer.
http://www.aabio.com.au/tag/peter-serov/

Introduction

The Maules Creek Community Council Inc has nominated in 2011 the Ecological Community known as *Groundwater Dependent Ecosystems of the Maules Creek Alluvial Aquifer* for consideration by the Threatened Species Scientific Committee (the committee). The committee chose not to list the ecological community in 2012 due to a shortage of information about the community. (See Appendix 1)

This ruling however, does not diminish either the significant environmental/conservation value or ecosystem function values of this aquifer on a local, regional or national level. This small ecologically isolated aquifer provides habitat for a groundwater biodiversity hotspot in a region that is already impacted by clearing, over extraction, river regulation, and is at risk of complete alteration and loss due to potential of excessive drawdown of the aquifer and surface water/ groundwater contamination. It represents the only major water supply for the riverine, terrestrial and subterranean groundwater ecosystems and contains a unique community that consists of highly endemic species, the most North West range limits of highly specialized genera and families of aquatic/subterranean invertebrates and threatened terrestrial ecological community. The aquifer also supports the most comprehensive range of Groundwater dependent ecosystem types within the Namoi Region.

1. What are Groundwater Dependent Ecosystems?

Groundwater Dependent Ecosystems are those ecosystems that have "*their species composition and natural ecological processes wholly or partially determined by groundwater"*. WMA (2000) amendment (Water Sharing Plan for the NSW Great Artesian Basin Groundwater Sources, 2008, Order Schedule 1, Dictionary, Department of Water and Energy 2008), The GDE Atlas 2012, Risk Assessment Guidelines for Groundwater Dependent Ecosystems 2012.

The Maules Creek Aquifer is one of the only alluvial aquifers that have been thus far surveyed, to support a complete range of GDE types excluding only karst and marine estuarine ecosystems. It is the only aquifer west of Tamworth in the Namoi River Valley to support perennial pools and the associated surface water ecosystem, a shallow, sand/cobble river bed with a deep Hyporheic zone which is directly connected to the alluvial aquifer. Groundwater fauna have been collected at less than 10cm depth in the river bed.

These GDE types include;

i. Subsurface Ecosystems – Underground Ecosystems

- Subsurface Phreatic Aquifer Ecosystems. (Stygofauna - an assemblage of subterranean aquatic invertebrates);
- Baseflow Stream (Hyporheic or subsurface riverine water ecosystems);

ii. Surface Ecosystems – Above ground ecosystems

- Groundwater Dependent Wetlands such as springs;
- Baseflow (Groundwater fed) surface water Streams such perennial stream sections and permanent pool ecosystems);

- Phreatophytes - Groundwater Dependent Terrestrial (vegetation) Ecosystems.

2. What are Stygofauna?

Stygofauna is a broad term that encompasses a diverse, highly endemic, morphologically specialized assemblage of subterranean aquatic invertebrates. This groundwater ecosystem type has been used extensively in Western Australia for over a decade to regulate and monitor the impact of mining and developments, due to the ecological features it possesses. These unique features include:

- A high proportion of either phylogenetic or distributional relicts as well as short range endemic species.

-They are extremely sensitive to the environmental characteristics of the water they inhabit and, thus, potentially are useful indicators of groundwater health.

- Some are rare or unique.

- The ecosystems surviving in aquifers, caves and springs are amongst the oldest surviving on earth.

- They have water quality benefits, biodiversity value and add to the ecological diversity in a region.

The Maules Creek stygofauna community has one of the highest subterranean biodiversity thus far encountered in NSW and a number of unique species and groups that have only been found sporadically across eastern Australia. Some of the fauna that highlight the significance of this community include the extreme NW range of crustaceans including Syncarida, Amphipoda, 3 species (at least) and two families of aquatic, blind water beetles, Oligochaetes (aquatic worms).

Below are a series of species types that have been collected from the Maules Creek Alluvium.

Photo 1. Synarida, Psammaspididae, *Psammaspides* n. sp. (©P.Serov 2011)

Photo 2. Amphipoda, Neoniphargidae n. sp. (©P.Serov 2011)

Photo 3. Isopoda, Janiridae, *Heterias* n. sp. (©P.Serov 2011)

3. What do Stygofauna do for water quality?

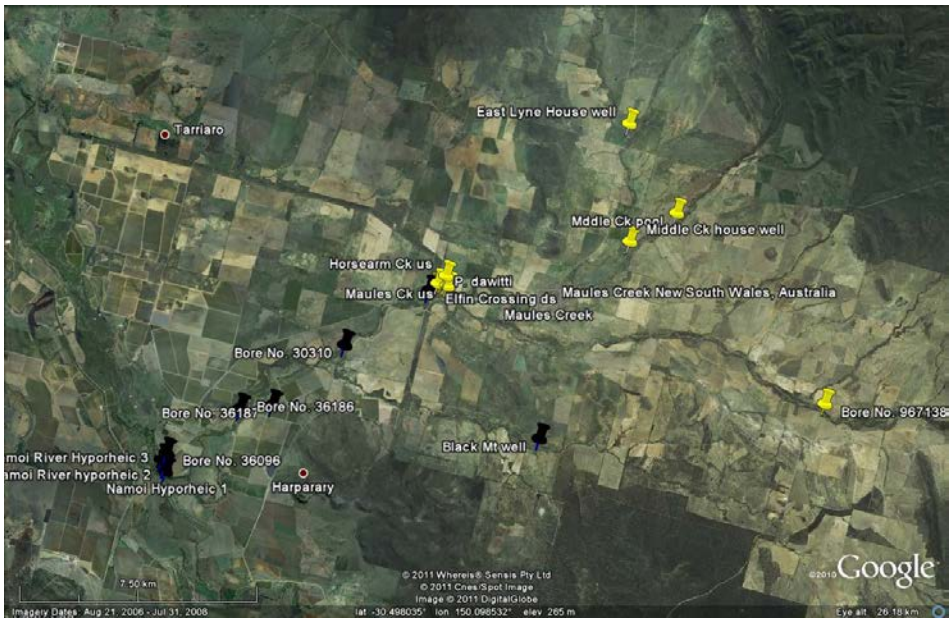
Humphries (2006) reports that "groundwater fauna contribute substantially to the biodiversity of Australia. In addition**, they may be functionally important in aquifers and, especially, in hyporheic zones**, that zone of interaction between river water and the groundwater present in the banks and beds of rivers (Boulton 2000; Hancock 2002)". The significance of the groundwater/surface water interconnectivity was presented at the Australia Society of Limnology at the 2009 Annual Conference.

Furthermore, Stygofauna can be used as biological tracers of groundwater discharges and recharge and this has major implications for the management of both surface ecosystems and groundwater ecosystems.

4. Where are Stygofauna found at Maules Creek?

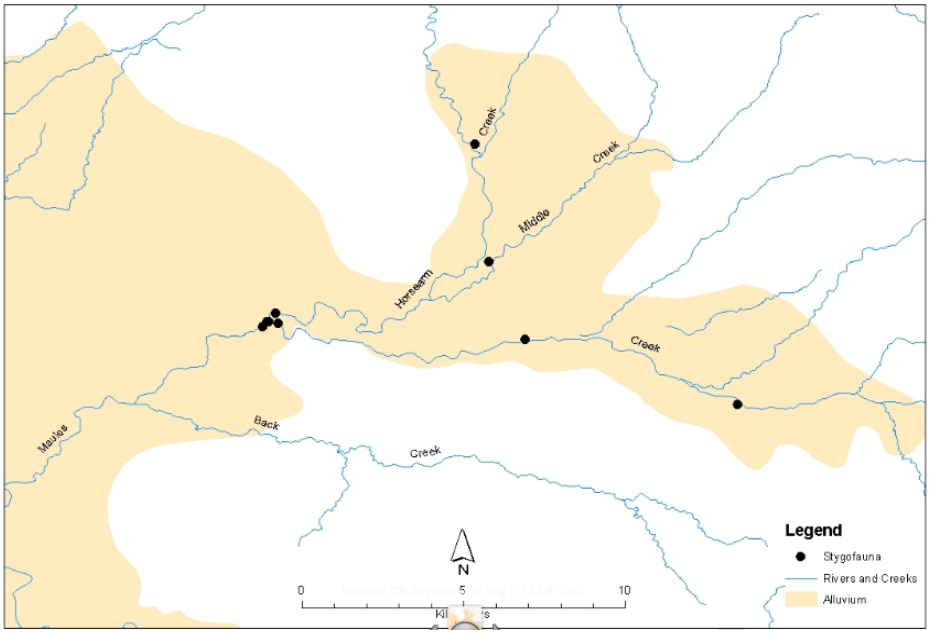
Stygofauna surveys within and around the Maules Creek Catchment (also known as Zone 11 in the Namoi Catchment Water Sharing Plan) as well as the Namoi River from Tamworth to the west of Wee Waa, have identified that the Maules Creek alluvial aquifer contains an isolated, diverse and highly endemic stygofauna community.

This site map taken from the original nomination shows where stygofauna have been located in the area. Yellow pins are positive stygofauna sites and black pins are negative - no stygofauna.



(©P.Serov 2011)

The successful sampling locations are located on the below map of the Maules Creek Alluvial Aquifer.



(©P.Serov 2012)

It is clear from this map the isolated nature of this community. Although a similar fauna is known from the Cockburn River and the upper Peel River east of Tamworth, the communities contain different species assemblages and no overlapping species. Therefore the communities are completely separate.

5. Threats to Stygofauna

"Groundwater fauna, especially stygofauna are extremely sensitive to the environmental characteristics of the water they inhabit and thus potentially are useful indicators of groundwater health (Tomlinson & Boulton, 2008, Serov *et al*, 2009)." These environmental characteristics include;

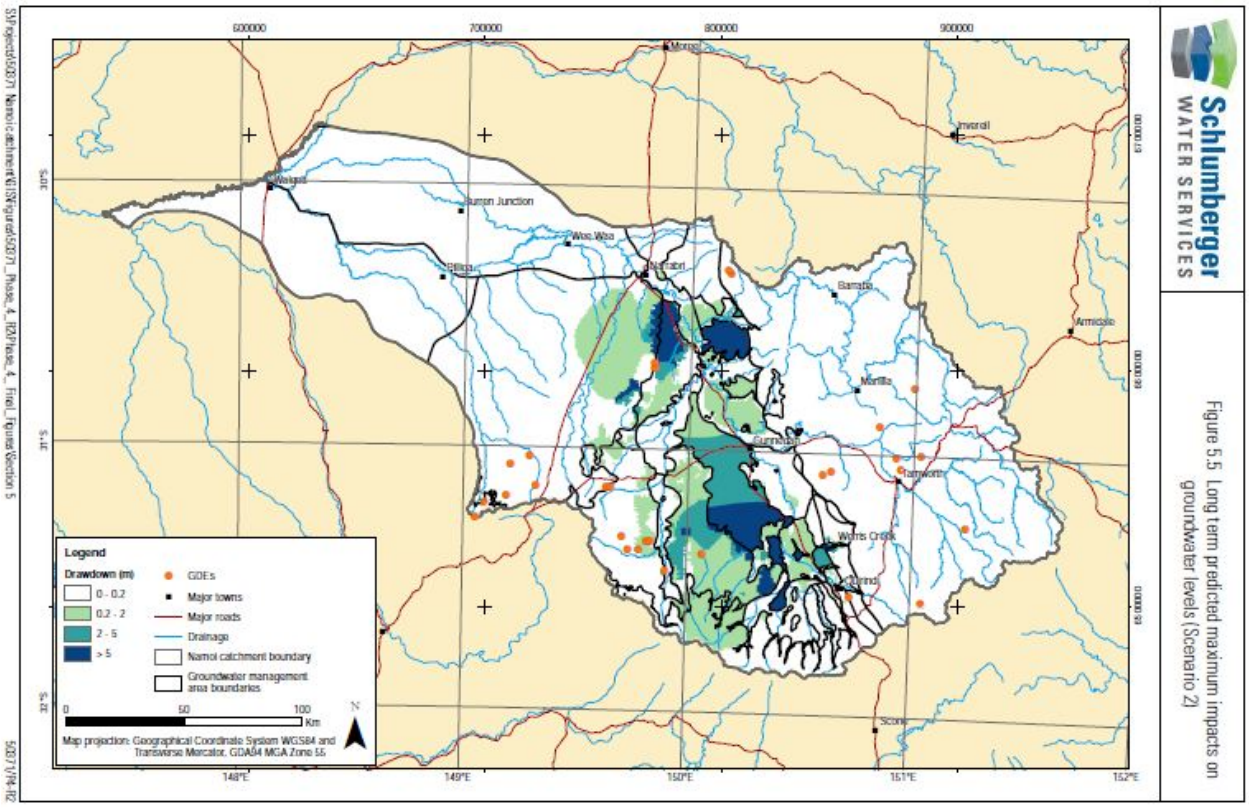
i. Water Chemistry Balance

These invertebrate communities are adapted (e.g. no eyes or skin pigment) entirely to these very specialised environments such as that within the alluvial aquifer. They are highly susceptible to changes in water chemistry. (Serov P, 2011)

ii. Water Table Levels

Drawdowns of groundwater in excess of 1 meter threaten the viability of Stygofauna due to sensitivity to dissolved oxygen levels (Serov P 2011). As the aquifer also supports perennial pools and a highly connected Hyporheic community as well as terrestrial vegetation communities that are entirely dependent on the natural range of water level fluctuations. All estimated water level drawdown will have a detrimental impoact on these communities. Scenario 2 of the Namoi Water Study (drawdown map shown

below) and the latest mine groundwater study from the Tarrawonga mine (Merrick & Alkhatib 2012) confirms that the drawdown will be in excess of 1 meter and will average 5 meters in the area. This is well below the stream, pools and Hyporheic level, which would therefore indicate and automatic loss of these communities.



iii. Insufficient State Legislative Protection

Although the NSW government has a GDE Policy and a process for delineating and ranking High Priority GDE's they have not and will not appropriately considered subterranean ecosystems and stygofauna and do not have a current system for public listing of any GDEs for high ecological value listing of GDE's even though an assessment process has recently been completed, endorsed and published by the National Water Commission. This assessment process includes a background brief and methodology for assigning ecological value and current and potential risk from development all GDEs, including stygofauna See Serov 2012 at http://www.water.nsw.gov.au/Water-management/Water-availability/Risk-assessment/Groundwater-dependent-ecosystems/Risk-assessment-guidelines-for-groundwater-dependent-ecosystems). It is imperative that an open and transparent process be urgently developed to allow the general public to add highly sensitive and ecologically valuable groundwater ecosystems to the high priority listing and that protection measures are increased to cover more than simply water levels. A holistic landscape approach is needed to protect the complete range of Groundwater dependent Ecosystems. This is currently lacking.

6. Conclusion

It is the view of the MCCC that the GDE of the Maules Creek Alluvial Aquifer are under imminent threat as there are;

1. A fine balance between existing groundwater extraction and recharge
2. Approvals of massive new coal mines and coal mine expansions in the area that are yet to commence groundwater extraction.
3. Modeled cumulative impacts in the shallow alluvial aquifer of a 5m drawdown adjacent to Maules Creek and 1m drawdown further up the valley due to that mining
4. Existing and new coal and CSG exploration leases that overlay the entire alluvial aquifer
5. Further identification of potential coal mines in the Maules Creek Alluvial Aquifer contained in the Strategic Regional Land Use Policy (SRLUP) and the Namoi Catchment Water Study.
6. Insufficient quantity and quality of the underlying science in relation to the planning conditions imposed by the Planning NSW regarding GDE of the Maules Creek alluvial Aquifer. For example, ***GDE's were not mentioned at all in the Maules Creek Coal PAC Report. (PAC 2012)***

These facts confirm that there is an imminent threat to the GDE of the Maules Creek Alluvial Aquifer.

7. Recommendations

1. Emergency consideration of the listing due to immediate threats from open-cut coal mining
2. Special consideration and application of the precautionary principle given that the listing has been held back to date only by lack of knowledge
3. That the IESC is required to fully and thoroughly assess the impacts of proposed mines on the endemic Stygofauna of Maules Ck.

8. References

Humphreys W 2006, 'Groundwater fauna' paper prepared for the 2006 Australian State of the Environment Committee, Department of the Environment and Heritage, Canberra, <http://www.environment.gov.au/soe/2006/publications/emerging/fauna/index.html>

Merrick N, Alkhatib M, A *Hydrological Assessment in support of the Tarrawonga Coal Project*, Jan 2012

Namoi Catchment Water Study Final Report, Schlumberger Water Services, July 2012

Serov, P. Paper 1 in preparation. *A Revision of the Family Psammaspididae with the Description of New Species.*

Serov, P. Paper 2 in preparation. *Raptornungidae, a New Family of Predatory Subterranean Anaspidacea (Syncarida, Crustacea) from North East, New South Wales, Australia*.

Serov et al, 2012. Risk Assessement Guidelines For Groundwater Dependent Ecosystems. National Water Commission.

See also Original 2011 Nomination for listing of the Ecological Community.