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Dear Sir / madam,

This inquiry is very timely and I welcome the opportunity to comment on the impacts of mining on the environmental values of the Murray Darling Basin.

I write as someone with many years involvement in Landcare and catchment management, as a board member of a regional NRM body in the Queensland part of the Murray Darling Basin and as a member of both ground and surface water advisory groups. My comments are made with acknowledgement of the importance of the mining sector to the national and Queensland economies.

The mining and energy resources sector is capable of transforming landscapes and intervening in ecosystem processes at large scales. Ecosystem services have economic values that are not accounted for and which provide important services to the Australian community. In the case of water resources I believe it is essential that everyone clearly understand the crucial importance of this resource. None of us could survive more than a few days without it!

In recent years, the rate of applications for exploration and licences for mining, petroleum and coal seam gas developments has accelerated rapidly and continues to rise, especially in Queensland. The damage inflicted by mining activities on ecosystems and environmental assets therefore has potential to increase much further.

Australia is not blessed with abundant areas of fertile soils so it is alarming that some of the most productive soils in the world are targeted by proposed mining developments in the headwaters of the Murray Darling Basin. If projects on the Darling Downs and Liverpool Plains were to proceed, land that could provide food for hundreds of years will be sacrificed for 20-30 years of mining royalties. In a world that is losing large areas of arable land to salinity and desertification, with a rapidly growing population, and facing food security issues, this is nothing short of madness!

Some of these developments will have serious impacts on groundwater resources. In the Upper Namoi catchment and areas such as the Felton Valley and the Brigalow-Jimbour floodplains in the upper Condamine, there are known to be connections and interactions between ground and surface water systems. Expert hydrologists refuse to rule out the possibility of permanent damage to aquifers should

open cut mining be allowed to proceed. There are also risks of chemical contamination of surface water supplies with implications for downstream water users and the environment.

These are highly productive agricultural and/or horticultural areas. In 2007-2008 in the Felton area, 23,755 tonnes summer crops, 7,450 tonnes winter crops, 3,350 tonnes hay, 3,700 tonnes silage, 4 million lettuces, 320 tonnes onions, 150 tonnes organic mixed vegetables, 4.3 million litres milk, 18,280 tonnes beef, 1,540 tonnes pork, 0.2 tonnes wool, 10 tonnes honey and 1,300 horses were produced within a 10km radius of the proposed Ambre mine and petrochemical demonstration plant. (R. Macreath, pers. comm.) Slightly further a field, 8 additional farms (employing 400 people) produced over \$23 million worth of lettuces, cauliflowers, celery, cabbages, onions and potatoes per annum – from the same groundwater source. If the Ambre project were to proceed beyond the demonstration phase, this contribution to the national food supply would also be lost. Contrary to the claims of mining companies, it is extremely difficult and expensive to restore soils' biological functions and productivity if soils are removed, stockpiled and replaced after mining.

In the Queensland section of the Murray Darling Basin alone the extent of existing mining & petroleum exploration permits and applications for permits exceeds 7 million hectares and is increasingly rapidly. Between June and December 2008, the area granted for coal exploration permits on good quality agricultural land increased by more than half a million hectares, while the figure for petroleum exploration permits increased by more than 1 million hectares on good quality agricultural land. (QMDC Inc)

Managing salinity in the Murray Darling Basin is a priority program for the Murray Darling Basin Authority. Allowing saline water to be discharged to streams in the upper catchment has implications for the investment in the Basin Salinity Management Strategy, downstream water users, aquatic life in affected streams and for the significant investment in the Native Fish Strategy and Risks to Shared Water Resources program.

Local governments and regional NRM groups have monitored water quality, including salinity levels, in the Queensland part of the Murray Darling Basin for almost a decade. Ambient salinity levels in the Roma area have consistently been between 200 – 300 EC units throughout this time. Since CSG developments began upstream of Roma, salinity in that stream has risen by some 1000 EC units. (G. Penton, Pers. Comm) Whilst this is currently within guideline levels, impact assessment processes do not allow for the cumulative impacts of these projects to be considered for projects are assessed on their individual merits. There are clearly risks of greater salt loadings and concerns for aquatic health should further developments be approved, or if existing ones expand their operations as is apparently planned.

The Queensland section of the Murray Darling Basin is an area of high salinity risk and hazard and includes the largest salinity site in Queensland – more than 10,000 ha. Millions of tonnes of salt have already been mobilised in the Queensland Murray Darling Basin, and evaporation ponds (for the disposal of saline associated water) currently cover more than 2,000 hectares with potential for many times that. The expansion of the industry will therefore see very high levels of saline water in the landscape. Evaporation ponds in Queensland are now required to have membrane liners but these are likely to leak due to the interaction of the concentrated salts and clay. If this occurs, there will be very large areas of toxic sites in the future.

Five million hectares of remnant native vegetation in the Queensland part of the Murray Darling Basin is now covered by coal and petroleum exploration permits. In Queensland the offset process for removal of native vegetation results in a 50% loss of vegetation cover and may include 'endangered' and 'of concern' regional ecosystems. This means continued habitat fragmentation and biodiversity impacts. As an indication of the rate of increase, the area of dominant 'endangered' vegetation covered by granted coal exploration permits increased 95% between June and December 2008. Furthermore, the Queensland part of the Murray Darling Basin includes more than 881,650 hectares of vegetation communities listed under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*. Current coal exploration permits cover more than 40% of this area. (QMDC Inc)

Permits have already been granted to divert more than 650 kilometres of major streams (orders 6 & 7) in the Condamine-Balonne, Maranoa and Border Rivers catchments. If all stream orders are considered, the total for granted coal exploration permits exceeds 7,000km and for petroleum more than 30,000 km of stream length. (QMDC Inc) The modification of river flows (caused by stream diversions) and floodplain

flows (caused by levy banks diverting overland flows) leads to erosion on floodplains, stream bank slumping and changed overland flow patterns. The environmental costs are enormous and, the economic costs difficult to quantify, but rehabilitation and repair – if possible - would be extremely expensive.

The increase in vehicular traffic accessing mine sites makes the transport of noxious weed seeds much more likely. Estimates of the cost of weed control vary but in terms of lost production and herbicide costs are certainly in the order of several hundreds of millions of dollars a year.

The risks of mining developments to NRM assets are neither well understood nor quantified and include:

- The possible pollution/ sedimentation of water ways (rivers, creeks & wetlands) from erosion off mine sites and spoil heaps; and leakage and overtopping of settling ponds or evaporation ponds. Some evaporation ponds are located as close as 10 metres from surface water streams.
- Ground–surface water cross-contamination (including aquifers associated with the Great Artesian Basin.) Some areas are known to have a high degree of interaction.
- Intersection of ground water in open cut coalmines and coal seam gas sites has the potential to disrupt stock and domestic supplies and agricultural production in groundwater dependent areas.
- Pollution and disposal issues: salts, hydrocarbons, toluene etc. and other contaminants in “associated” water.
- Future developments involving permanent infrastructure may become reliant on a temporary water source.

There has been no consultation or negotiation with CMAs or regional NRM groups regarding how these risks might be shared, nor the costs of any remediation measures.

The NRM and Landcare community has spent thousands of hours developing and implementing NRM Plans, Regional Investment Strategies and on ground works projects. When in-kind contributions are taken into account (as they should be!) this work is worth millions of dollars in an NRM region. Regional NRM Plans and Regional Investment Strategies include targets that are endorsed by both State and Federal Governments.

In Queensland, key government departments - those involved in ‘shepherding’ mining proposals and developments through assessment processes - fail to take account of concerns raised by community-based NRM regional bodies. The Maranoa-Balonne Regional Plan is a case in point: community input to drafts of the plan, requested at regional consultation briefings, were repeatedly ignored or overlooked, lending weight to the increasingly widespread attitude that governments are merely ‘going through the motions’ of engaging and consulting with affected communities.

In addition to favourable treatment in State impact assessment processes, the energy resources sector is not required to comply with the same legislation, regulation and policies as landholders. E.g. Queensland’s Vegetation Management Act, and state planning policy for the protection of good quality agricultural land. The mining sector is also exempt from the National Water Initiative – an agreement that binds all other water users.

The mining and energy sector makes much of its social licence, the benefits to the communities in which it operates and its engagement with regional communities. Yet as a sector it is reluctant to participate in regional NRM activities and even to engage in meaningful and collaborative ways with other NRM players on whom its own activities have significant impacts. Natural resource management is not considered core business and companies are more inclined to spend substantial (six figure) sums on community ‘entertainment days’ rather than to contribute to the achievement of desired and endorsed NRM outcomes - which their activities undermine.

Funding for NRM projects is far from secure, subject to annual applications, competitive assessments and declining funds with which to deliver its key projects. State government funding – and other resources, including expert staff – is also declining, in spite of the royalties received from the mining sector

That the efforts of regional NRM bodies / CMAs, Landcare groups and individual landholders are undermined by the actions of a rich and powerful sector that is not subject to the same standards adds insult to injury. There are some things that are more important than money. High quality soils and safe, reliable water supplies are essential and should be permanently protected from mining – and indeed other developments with unacceptable impacts.

I look forward to the ECA committee's final report and thank you for the opportunity to make this submission.

Yours sincerely,