Sarah Moles,

18th February 2009.

I write as a veteran of NRM community groups at catchment, basin, state and national scales over more than 15 years. I am currently on the board of a regional NRM group (Qld Murray Darling Committee Inc), the environmental flows advisory committee in the Gwydir Valley, the Lower Balonne Water Ministerial Advisory Council, a member of the Great Artesian Basin(GAB) Consultative Committee and national environment sector representative on the Qld GAB Advisory Council. I spent more than 4 years as a Qld member of the Murray Darling Basin Ministerial Council's Community Advisory Committee (CAC) and 2 on The Living Murray Community Reference Group. I've also been involved in water resource planning and floodplain management planning processes in 2 states (Qld and NSW).

I welcome the opportunity to comment on the National Water Initiative to date. The NWI mainly deals with water quantity, trading, risk assignment, water use efficiency and water accounting. This submission is primarily focused on water quality, including comment on clauses 2, 7, 34, 35, 79 and 98; and also on ground and surface water connectivity. They have particular relevance to the energy resources and mining sector, whose importance to the national economy I acknowledge.

My concern and focus on water quality stems from two recent events. Firstly the increasing interest in energy resources in Queensland's Surat and Bowen basins (ie part of the GAB as well as part of the northern Murray Darling Basin). The expansion of coal seam gas (CSG) projects has been extremely rapid in this part of Queensland. CSG projects require an allocation in a Water Resource Plan, but all other aspects are administered under the *Petroleum and Gas (Production and Safety) Act 2004*, *Mineral Resources Act 1989* and/or *Environment Protection Act 1994.* These Acts clearly apply to the minerals and petroleum industries, so while this submission is about water quality, it has particular relevance to those industries and therefore Clause 34 of the NWI.

Secondly, the results of Emeritus Professor Barry Hart's study for the Queensland Government into the status of water quality in the Fitzroy River. (This followed serious flooding in the Central Queensland coalfields in late 2007 and subsequent fears of degraded water quality in some downstream town water supply weirs). Professor Hart recommended that robust water quality objectives and outcomes be incorporated into water resource plans.

I agree that water quality needs greater scrutiny. I understand that there are water quality requirements for some coastal Queensland streams (prescribed in Schedule 1 of the *Environment Protection Policy (Water)* but the Fitzroy River, which empties into the Great Barrier Reef lagoon is noticeable absent. This is surprising since the GBR surely deserves protection under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999.*

I acknowledge that *s*ome water resource plans /water sharing plans do include water quality but there is need for consistency and better integration. For example, the *NSW Water Management Act 2000* includes water quality in its objects and performance indicators, as do the Water Sharing Plans (WSP) for the Gwydir (regulated river) and NSW portion of the GAB. In Queensland, water quality is included in the *Water Act 2000*'s definition of 'sustainable management' and the Condamine-Balonne Water Resource Plan (WRP) includes water quality in Outcomes for the Plan area, but not

in its list of Performance Indicators. The Queensland GAB WRP does not include water quality, but its Resource Operations Plan does require monitoring of pressure, temperature and Electrical Conductivity. There are, however, no reporting requirements.

Clause 34 of the NWI states that *"The Parties agree that there may be special circumstances facing the minerals and petroleum sectors that will need to be addressed by policies and measures beyond the scope of this Agreement. In this context, the parties note that specific project proposals will be assessed according to environmental, economic and social considerations, and that factors specific to resource development projects, such as isolation , relatively short project durations, water quality issues, and obligations to remediate and offset impacts, may require specific management arrangements outside the scope of this Agreement."*

The policy, regulation and legislation relevant to the mineral and energy sectors are complex and have been unable to keep up with the ballooning developments in the CSG segment of the energy resources industry. The impacts on sometimes poorly understood ecosystems are uncertain and I believe there are serious risks to NRM and environmental values and public benefit outcomes unless there is reform.

If the *'special circumstances'* and '*specific management arrangements outside the scope of this Agreement'* are the state legislation, regulations and policies that administer the energy resources, minerals, petroleum and gas industries, the approach is fundamentally flawed. There are currently no published standard conditions and approaches between agencies within some jurisdictions and between some States – although much effort goes into discussions to 'harmonize' operating and policy arrangements. The results are inconsistencies between jursidictions and across shared aquifers and streams; and increased risks of overlooking important issues at individual sites. There is an urgent need for legislative reform and a requirement for consistency across state borders. Consistency is also required in water quality monitoring, objectives, targets and criteria; in terms of compliance and resources for enforcement; even in terms of language and definitions to avoid further confusion of already complex situations (Eg in some jurisdictions, de-watering a mine is considered a 'use' while in others it is deemed a 'transfer').

Most states' legislation confers discretionary power on Ministers and/or chief executives and relationships and interactions with other Acts are complex . Some state and territory legislation gives the mining and petroleum sector specific exemptions from large parts of Acts, or from certain provisions of Water or other Acts applying to planning or related natural resources. The legal processes and pathways are particularly convoluted in Queensland where (s4) of the *Water Act 2000* binds all persons to the Act but not the operation of the *State Development and Public Works Organisation Act 1971*, nor the powers of the Co-ordinator General under that Act. The provisions of the SDPWO Act are phrased in terms of the almost absolute discretion of the Coordinator General.

Projects designated 'state significance' thereunder (or a 'prescribed project' under Amendments to the *SD&PWO Act* in 2006), follow the Coordinator General's streamlined EIS assessment process which can override the detailed requirements of all other environmental laws and reduce the powers of other state government agencies eg from 'concurrence' to 'advice' agencies. A feature of this process is that the proponent prepares the EIS and once approved, conducts much of the required monitoring. Such levels of self assessment and self monitoring lack transparency and are not a good foundation for community confidence. Nor is the fact that the *SD&PWO* Act lacks an Objects clause and does not include penalties for providing false or misleading information. This is a very poor standard of governance and public accountability.

Queensland's *Integrated Planning Act 1997* is the centerpiece of the state's planning framework. It

applies to the majority of projects that are not 'state significant' or 'prescribed projects'. Under Schedule 9, all aspects of mining developments approved under the *Minerals Resources Act, 1989, Petroleum & Gas Act 2004* and *Petroleum Act 1923* are exempt from the IPA assessment process.

Examples of exemptions from other states include:

- in SA, s4(3) of the *Natural Resources Management Act 2004* exempts mining from Chapter2 Part 2 (Objects of the Act and general statutory duties); and Chapter 6 (Management and protection of land).
- S7 of the NT *Water Act* exempts mining and petroleum activities from s15 (Obstruction of or interference with waterway prohibited), s16 (Prohibition of pollution), Part 5 (Surface water), & Part 6 (ground water.)
- In NSW, s345(a) of the *Water Management Act 2000* gives a defence from prosecution for harm caused by works authorised under the *Environmental Planning and Assessment Act 1979.*

Clause 2 of the NWI states that " … *The framework within which water is allocated attaches both rights and responsibilities on to water users – a right to a share of the water made available for extraction at any particular time, and a responsibility to use this water in accordance with usage conditions set by government. Likewise, governments have a responsibility to ensure that water is allocated and used to achieve socially and economically beneficial outcomes in a manner that is environmentally sustainable."*

Government's have a responsibility to the public to ensure confidence in the quality of our water and the role of the Bureau of Meteorology in data collection is welcomed in anticipation of consistent data, criteria and format across all states.

Water quality has particular relevance to the relationship between ground and surface water sources. The way in which water is used and managed has quality implications for other water users, particularly downstream surface water users. Open cut mining activities intersect groundwater sources in many areas with potential risks to the aquifers themselves. Connectivity between ground and surface waters are known to exist at some mining projects and few groundwater experts are prepared to categorically rule out the possibility of detrimental impacts. Similarly, disposing of 'associated water' or 'formation water' in evaporation ponds is no longer acceptable in Queensland and re-injection is becoming more widely used. Inter-aquifer leakage has been recognised as an issue in the GAB for some time but concern is increasing that re-injected saline water could contaminate adjacent aquifers bearing higher quality water that is allocated to other users.

The issue of water quality is mentioned in 5 NWI clauses. (7, 34, 61i, 79iib, 98).

Clause7 of the NWI cites the *National Action Plan for Salinity And Water Quality (NAP) , Natural Heritage Trust (NHT)* and *National Water Quality Management Strategy (NWQMS)*. These programs involve significant investments of public money as well as huge investments of time and in-kind contributions by landholders, Landcare and regional NRM groups. The true value of implemented eg NHT projects is considerably more than the government's cash contributions. It is economically and ecologically inefficient to permit activities that undermine the efficacy of these efforts , and to knowingly permit activities that undermine resource condition targets agreed to and endorsed by state and federal governments. All users should be required to comply with the same legislation and regulations. Failure to ensure this is effectively subsidies to those with licenses to pollute, permits to clear native vegetation not available to other landholders and to undertake other environmentally damaging activities with substantial costs to society at large.

Clause 79 refers back to clause 35. I believe it is very significant and a serious omission that water quality is not included in the 'environmental and other public benefit outcomes' described in clause 35. Water quality is intrinsically and economically valuable as water treatment costs clearly demonstrate. Water quality is also fundamental to many other, wider NRM outcomes and its deterioration has clear implications for downstream users. This is a powerful reason to include environmental costs and benefits in the assessment process described in clause79iib. Water quality must form a key component of the NWI..

In terms of 'wider NRM outcomes', I believe consideration should be given to a cost benefit analysis of the potential for the energy resources sector to impact on NRM assets and MDB programs / strategies such as the Basin Salinity Management Strategy, Native Fish Strategy and Risks to Shared Water Resources program. CSG and mining developments are mobilising millions of tonnes of salt previously stored in the landscape and interfering with local groundwater systems. These present a number of very real and potentially very costly risks to other NRM assets:

- Waste (or associated) water that has high salt content has the potential to be used for irrigation, but residues may leak or be left behind and damage farming land and creeks, rivers and wetlands.
- The modification of river and floodplain flows caused by creek or river diversions or by flood plain levy banks diverting flows leads to changed overland flow patterns, erosion on floodplains and creek banks, bank slumping and increased sediment loads and therefore reduced water quality.
- Continued decline in vegetation extent, habitat fragmentation and loss of biodiversity, and potential changes in local hydrology through clearing of vegetation.
- The possible pollution/sedimentation of water ways (rivers, creeks & wetlands) from erosion off mine sites and spoil heaps, and leakage and possible over-topping of settling ponds or evaporation ponds.
- Mining disturbs areas of good quality agricultural land and if not able to be rehabilitated to its former productive state, could mean good soil and productive farming land is lost forever.

Not surprisingly, such impacts raise the ire of affected landholders whose concerns go beyond calls for compensation. The loss of good quality agricultural land in a land not blessed with abundant fertile soils (and in a world predicted to face food security issues!) is deplorable and decisive steps must be taken to protect them (as well as areas of high nature conservation value) and give all stakeholders some certainty. Access and impacts on farm operations are emotive issues and landholders see great inequities in the laws applied to agriculture and NRM on the one hand and to the mining and energy sector on the other. There are therefore compelling social reasons why the NWI – and all the legislation (not just Water Acts), regulations and policies that sit under it and which are relevant in each state must apply to all.

The Minerals Council of Australia defines “relatively short project durations” as up to than 30 years and the industry as 'temporary users of water' (Melanie Stutzall, MCA, pers comm). This is the life of 3 Water Resource Plans and a generation in a family property. If time frame is, indeed, a consideration in the development / assessment / application process it is another inequity in the system.

Clause 98. It seems that the more we know, the more we find that we *don't* know! There is clearly a need for a much better understanding of groundwater and its dependent ecosystems, and of the inter-connections between ground and surface water resources. I understand that relevant knowledge and capacity building work is underway and that most legislation and regulation requires that developments be assessed on their own merits/impacts, not cumulative ones. This is

another serious flaw in the system. I particularly welcome studies examining cumulative impacts on all aspects of ecosystem health and see a need for agreed and actively monitored caps on water quality including nutrient, sediment, biological indicators, EC, N, P loadings etc.

The Commonwealth's *Water Act 2007* covering the MDB parts of 4 states plus the ACT is specifically linked to the NWQMS and shows a way forward. Water quality is included, and water quality and salinity objectives and targets for basin water resources will be required. While the Act transcends State boundaries it does not recognise the ground-surface water inter-connectivity of GAB aquifers that lie beneath the MDB. My sense is that the efficacy of this Act would be strengthened if water quality and salinity were included in the reporting obligations of basin states

In conclusion, I believe there is a need for:

- water quality to be included in the 'public benefit outcomes' described in clause 35 of the NWI; and
- amendment of Clause 34 to ensure all sectors of the Australian community and economy are included equally in the NWI framework.

I think it essential for NRM Ministerial Council to

- undertake a comprehensive review of all water, natural resources, minerals and energy resources, land-use and land use planning legislation, regulation and policies, with priority to those involving shared water resources.
- Ensure legislative reform and amendments to achieve
    - consistent outcomes;
    - legal requirements to protect water quality; and
    - statutory water quality objectives, targets and reporting obligations.
- Ensure that all sectors of the community and the economy are treated equally under legislation, regulation and policy. Failure to ensure this in the context of energy resource developments, is effectively a subsidy to those with 'licenses to pollute' and an example of the wider NRM costs being socialised.

We've had IQQM models for our major catchments for years but the emphasis has been overwhelmingly on the first 'Q' – the quantities of water available for allocation and environmental needs. It is past time that water quality received equal scrutiny and was fully integrated into the NWI and all aspects of water planning, allocation, management and use.

Thank you for opportunity to comment. I look forward to the results of this review.

Yours sincerely,

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