MDBA Draft Constraints Strategy

Comments

Comments by the Queensland Murray-Darling Committee Inc. on the Murray Darling Basin Authority's Draft Constraints Strategy

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This submission is presented by the Chief Executive Officer, Geoff Penton, on behalf of the Queensland Murray-Darling Committee Inc. (QMDC). QMDC is a regional natural resource management (NRM) group that supports communities in the Queensland Murray-Darling Basin (QMDB) to sustainably manage their natural resources.

1.0 Background

QMDC has made submissions and deputations to both the Australian and Queensland Governments seeking improvement to legislation, policies, and planning to both, prevent or manage impacts on the water resources in the catchments of the QMDB. These submissions and deputations have raised issues integral to regional governance, community engagement, water use efficiency (WUE), water resource planning, the protection of watercourses and aquatic ecosystems, CSG water management, and floodplain management.

2.0 General comments

The following comments are key issues QMDC believes need to be addressed within the *Draft Constraints Strategy* (*the Strategy*). Although the QMDB does not sit in any of the seven key focus areas, QMDC posits that our on-going work within the diverse catchments of the QMDB has allowed QMDC to access not only valuable scientific and technical information; but also the local knowledge and experience of the QMDB's rural and regional communities, including local businesses and industry on water management issues at a regional and state-wide level. We would argue there is much value if the *Basin Plan* and all its related polices and strategies considers the importance of the QMDB to the overall delivery of water management strategies in MDB.

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2.1 Flow and non-flow related options for enhancing aquatic ecosystem function

Systemic constraint on the implementation of the *Basin Plan* is that there is no cost-benefit mechanism to evaluate different flow and non-flow related options for enhancing aquatic ecosystem function in valleys or collectively across the Basin.

Non flow related issues are possibly the primary constraints for improving aquatic ecosystem function within QMDB valleys.

There is no recognition given to the function of regulated flows in aquatic ecosystem function. Although reduced flows and unseasonal flows may have some detrimental effects on aquatic ecosystem function, they also have some benefits. Due to the increased reliability of in-stream flows, it is understood that riverine waterholes provide some drought refuge function that may have been provided by off-stream wetlands in natural conditions. With this in mind, management of non-flow related issues in regulated reaches may allow in-stream wetlands to provide ongoing drought refuge services with limited or even with zero environmental flows.

2.2 Environmental benefits

Examples of works that could have significant environmental benefit include:

- Carp management can achieve as much as any enhanced water delivery in the regulated reaches for native fish but managing Carp cannot currently equate to a purchased environmental water allocation.
- Temperature pollution mitigation at Glenlyon Dam could allow current irrigation water releases (and environmental water releases) to have enhanced environmental value but no Megalitre value can be assigned to temperature pollution works so they are not being seriously considered
- Fish passage works could allow longitudinal connectivity for native fish (and could also enhance Carp management capacity) but there is no mechanism under the *Basin Plan* as is stands to assign a ML equivalent to fish passage works thus reducing the SDL reductions whilst achieving equivalent aquatic ecosystem benefits.
- NRM works are reducing the pollutant loads in streams but funding for such works is limited.
- Buyback and WUE work in the Lower Macintyre system would reduce the imminent risk of landscape salinity in this area and provide better delivery efficiency for water intended for environmental purposes in the Barwon-Darling. However, there does not appear to be any capacity to give higher priority to WUE or other buyback in this area under the *Basin Plan.*
- Fish passage works in the Narran have the capacity to enhance system ecosystem function in the Lower Balonne and Narran system with water currently only targeted at the Narran Lakes for birds.
- Fish passage works and associated offsets in the Narran and elsewhere can also have water security outcomes for grazing enterprises enhancing social economic and environmental outcomes.

2.3 Responsive landscape management for salinity

Salinity remains a key risk to the northern Murray-Darling Basin, therefore the long term constraints planning for management and prevention of this salinity is critical aspect of the *Strategy* in order to prevent increased in-stream salt levels in the future. QMDC asserts the Authority's salinity testing in the Basin in conjunction with Biggs AJW, Watling KM, Cupples N and Minehan K (2010). *Salinity Risk Assessment for the Queensland Murray-Darling Region*. Queensland Department of Environment and Resource Management, Toowoomba (the *Salinity Risk Report)* can provide invaluable information to assist the *Strategy* to address this issue.

The *Salinity Risk Report* has already identified salinity risk areas and responsive landscape management strategies. It provides a better informed future of salinity in the region; and has developed extension materials. The *Salinity Risk Report* provides the *Strategy* the foundations for determining both the inherent salinity hazard in a landscape, and the effects of past, present and future land management practices. Equipped with this information about where salinity currently is, and where it may occur in the future, allows the *Strategy* to promote management options to both prevent, and remediate, salinity. QMDC asserts an important aspect of the *Strategy* should always be on management to prevent future salinity and to apply regional scale data to inform water use decisions.

2.4 Impacts of resource industry on water quantity and quality

With the predicted 40,000 CSG wells to be drilled in Queensland, it is urgent that the cumulative impacts and risks to groundwater quantity associated with aquifer and aquaclude integrity being compromised by drilling, fraccing and repatriation activities are quantified. This type of information needs to be accounted for in modelling and reporting on aquifers and regional water sources and integrated into the *Strategy* as part of its constraints analysis.

Open cut mining is also known to have major impacts on streams, alluvial aquifers and alluvial soils. Mining which removes alluvium to reach coal beneath has an obvious impact on an alluvial aquifer, requiring it to be dewatered during mining, and in QMDC's opinion unlikely to be able to be successfully restored afterwards.

Salt occurring naturally in the hydrogeological structures of the area has the potential to leach into groundwater and surface waters. During coal mining, salty water collects in mine pits, and has to be pumped out to allow mining to continue. Saline water is a major management problem for many coal mines.

Open cut mining close to alluvial aquifers may lead to fracturing of the hard rock layers that confine the ground water. The result is that any significant degree of fracturing will establish additional conduits for increased movement of saline groundwater into the alluvial aquifers, and to surface water features.

In response to these concerns, the NSW Government agencies operate under an informal policy that no further open cut mining should take place, for example, within the Hunter River's alluvial floodplain and its prime alluvial aquifer.

http://www.parliament.nsw.gov.au/prod/parlment/publications.nsf/key/MiningandtheEnvironment

It would be expected that ground water levels surrounding a mine site would be affected down to the depth of the mine pit. QMDC believes the *Strategy* needs to consider not only the lessons learnt from CSG drawdown thresholds but also needs to consider how they can be applied to coal mining developments. Additionally the *Strategy* may need to address offsite impacts of ground water draw down, and any potential risk of subsidence a significant distance away from a project site.
QMDC argues the current EIS modelling and assessment of groundwater responses are not adequate to fully address potential environmental impacts associated with:

- ongoing open cut de-watering and associated aquifer de-pressurisation;
- leachate seepage and inter-aquifer connectivity;
- significant inflow from aquifers to the mine;
- minimising mine wastewater, maximising use or re-use of mine wastewater, and realistic ability of the mine to achieve a 'nil discharge' status;
- residual risk to groundwater and surface water and their ecosystems;
- final void configurations, modelled groundwater inflow post mining, and post-mining management options and outcomes for any residual water resources impacts; and
- water resource concerns of the local community.

Proposed EIS groundwater impacts and management strategies are both flawed and in some case non-existent. Often mitigation strategies are not offered for potential draw down in some of the GAB aquifers. It is of significant concern to QMDC that mining proponents merely need to consider a seepage detection and recovery system but this not mandatory. EISs whilst they recognise that there will be the potential for leachate contamination, do not outline whether the proponent intends to treat contaminated mine or groundwater before it is stored. Having no mitigation measures for groundwater depletion is not acceptable especially if it is unknown how many years it will take to reach equilibrium.

QMDC asserts mining proponents have failed to give serious consideration to a number of key risks and impacts and therefore proposed mitigation strategies are not adequate.

Water management should primarily prevent contamination and minimise disturbance and pollution to surface and ground water. The design parameters for water storage should be designed for a 1:50 year event as a minimum and preferable 1:100.

Overall waste water treatment (via reverse osmosis) should be required for all water intending to be discharged.

Water resources must be managed by proponents on a sustainable and total water cycle basis to meet consumptive needs, whilst protecting water-dependent ecosystems, including improving natural resource and community resilience to the effects of climate change.

The strategy needs to be confident that resource projects will not be allowed proceed if they cannot adequately demonstrate at an early stage that the local aquifers and surface waters will not be significantly impacted.

3.0 Recommendations

3.1 That there is a cost-benefit mechanism to evaluate different flow and non-flow related options for enhancing aquatic ecosystem function in valleys or collectively across the Basin.

3.2 That recognition is given to the function of regulated flows in aquatic ecosystem function.

3.3 That the works outlined in **paragraph 2.2** be considered as part of the *Strategy.*

3.4 That imminent landscape salinity risk should be considered a key constraint to delivery of environmental outcomes with purchased water. If the risk is realised environmental outcomes will be undermined. Dealing with this risk requires a feedback loop from the constraints management to inform WUE and other buyback mechanisms leading to a bias towards buyback and possibly other works in high salinity risk areas.

3.5 That it should be a mandatory requirement that all resource companies use a set monitoring and data collection methodology that is independently reviewed and regularly evaluated against community values and regional guidelines on water quality and quantity. All monitoring data needs to add to the state government's groundwater data base and the Australian Water Resources Information System.

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