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17 August 2016 - email from Frank Walker - meeting summary and follow-up actions - meeting summary

**Northern Basin Review Workshop
Northern Irrigators and NBAC
9 August 2016**

10.00 am – 3pm - Holiday Inn – near Sydney airport

Attendees:

Northern Irrigator groups: Ian Cole, Michael Egan, Grant Buckley, Jon Baker

NIA consultant: Daren Barma

NBAC: John Clements, Michelle Ramsay (late)

Water NSW: Craig Cahill

MDBA: Peta Derham, [s.47F] Frank Walker

CEWO: [s.47F]

Welcome – Peta welcomed everybody to the meeting and provided a short update on where the modelling work is up to including the reports that are being prepared. The modelling is still a 'work in progress' as the Authority is still requesting further modelling work. The draft 'work in progress' modelling report should be ready to put on the MDBA website by the end of August.

1. Coordinated vs uncoordinated

[s.47F] gave a presentation on the results of the 390 GL uncoordinated scenario compared with the previously run 390 GL coordinated releases scenario.

Comments made during the presentation included:

1. The details on the co-ordinated scenario have been presented at previous meetings. [s.47] presentation focused on the uncoordinated scenario assumptions and a comparison of the results with the co-ordinated scenario. The 390 GL fully implemented Basin Plan scenario was chosen to do the comparison. Others could have been chosen but the main point of the analysis was the comparison with and without co-ordination of releases for downstream watering needs.
2. There are three main differences between the coordinated and uncoordinated scenarios. For the uncoordinated: catchments work individually, not collectively to provide flows to the Barwon-Darling; releases are made to achieve end of system flows, particularly base flows and low flows, not to add to the peak of an unregulated event; and there is no forecasting, rather a response to existing flows using release triggers only based on flows within the valley.
3. Slide 4 "practical challenges" does not include the existing constraints in the Macquarie discussed at the last MRFF/ MDBA meeting. Concerned that constraints such as 3200 ML/d instead of 4000 ML/d at Marebone is not being reflected in the modelling. MDBA indicated that we are using State models and changes such as these would require States to update their model. However we can acknowledge any modelling assumption issues identified and the consequences on results. In the case of the Marebone constraint, because the SFIs for the Macquarie Marshes are volume based rather than flow rate and duration based, the consequences of changing the Marebone flow constraint will not significantly affect the results (Paul used 'filling a bucket' analogy – leave tap on for longer but not as hard, ie inflow rate doesn't matter). Advised that the 'practical challenges' listed should include consideration of delivery losses, river operator behaviour, irrigator behaviour, CEWO behaviour and antecedent conditions to better reflect real world operational conditions.
4. A big issue with the modelling is how accurate the modelled end of system flows are compared to the real world. The NSW northern IQQMs have always had issues with inaccuracy in representing end of system flows, especially during low flow periods. MDBA have referred to the calibration report, [s.4] -

OK in the long term, but not good on an event by event basis.

also added that low flows are

especially bad, but high flows do okay. 5. Podger report on suitability of models used for Basin Plan -

[s.47F

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][s.47F

involved in the report. Need to be careful when use models beyond comparative, ie when you are assessing success in achieving

absolute targets. [s.47 reflected that models are always optimised. The real world situation essentially

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Comes down to the 'believability' of the models.

6. Working out where you are on now on the spectrum between these scenarios and where you are likely to get towards the co-ordinated scenario is important. The foresight assumed in the co-ordinated the co-ordinated run is still seen as overly optimistic.
7. John raised that by using the environmental outcomes from scenarios with optimised or overly optimistic assumptions in any decisions you avoid thinking of other ways – using 'in situ' water rather than co-ordinated releases, other market mechanisms, etc. [s.47F] raised that CEWO see the coordinated/uncoordinated model runs as bookends of what environmental managers would do and also confirmed that 'believability' is important. focussed on trying to break a dry spell or extend an existing event. Agreement that have some hope of doing this down to the end of tributaries. Paul added that the flipside to the foresight concern is that environmental

demand is generated outside of the model using average travel times. Operationally this is not what would happen and river operators would have better estimated. The demand series is not using the 'perfect hindsight' of the model.

9. Any modelling will present a rosy picture compared to reality. The ability to learn and improve through experience with coordinated releases may still be limited by the practical challenges (ability to forecast flows, inaccuracy of measuring flows etc). John made clear that not all things can be learnt or explained – unknown unknowns.
10. Could be successful on an event, but overall the number of events are predicated on complex advanced forecasting. Rare opportunity, perhaps system coordination opportunities twice every decade. Sophisticated advanced forecasting tools may never be available or adequate.
11. Clarification of proportional sharing between Queensland and NSW. For shared component only: NSW 60: QLD 40. Overall NSW 55: QLD 45 (Local + shared).
12. Main response being sought is that limitations, uncertainties and assumptions are clearly set out and factored in to decision making. When you can't do it this needs to be said. Query around how information on uncertainty is getting through to the Authority. The Authority has to consider the limitations of the model, and it was expressed that there was a process limitation where MDBA model runs were developed without including an operational plan/discussion with community members. View expressed that MDBA presentation and responses here today do not match the narrative being used during the current engagement meetings. Concerned that MDBA is selling the environmental outcomes that can be achieved. Looking for honesty about where environmental outcomes cannot be achieved.
13. Michelle raised whether the rationalisation of the model had gone far enough towards representing the real world. [s.47

reflected that there is not enough time, sensitivity to water recovery is at a catchment level only, and although you could try and mimic more recent operational practices, this hasn't really happened for the North. Recognition of where environmental outcomes cannot be achieved with 2

straight recovery will drive resources to find alternative ways of achieving these outcomes. There is still a lot of work to do on the alternatives to identify which are realistic.

8. MDBA indicated that the points being made and the limitations, uncertainties and assumptions will be set out in the write-up of the work and are being communicated to the Authority. MDBA is assessing (hydrologically with model results) toolkit options such as trade and use of private storages. This information will also be included in the decision making.
9. Asked what further things are left to do in the modelling. MDBA – Authority has requested other whole of north scenarios, doing some modelling on the Macquarie local reduction, some further work on temp trade opportunities and use of private storages.
10. Request for Craig to share his thoughts on co-ordinated releases – With existing tools feasible to now forecast end of system flows in tributaries, but no real chance of successful coordinated releases to

Bourke particularly if having a 'spikey event (eg from Moonie). [s.47 referred to NSW unreg flow F]

management plan and decisions made in the past to achieve predicted flows at Bourke – did it about 9 times and got it right once. Antecedent conditions will get you every time.

14. During dry times it can take a lot of water to get a flow at the end of the system, eg Namoi 12,000 ML released 9000 ML lost to get 3000 ML at the end of the system. There are also occurrences of large unexpected natural losses, eg 20 GL loss

in the Namoi, experienced river operators still cannot explain the loss.

15. Craig – operations will improve with time – different tools more learning. Could be looking at ten to twenty to be able to coordinate releases well.
16. View expressed that there hasn't been a rationalised model run.
17. MDBA response – models have been rationalised in terms of the work done for the WSP model, which the MDBA are using. Acknowledge challenges in relation to rationalisation for the current assumptions in delivering flows to achieve SFI targets, but still believe need to be optimistic about the ability to use water efficiently. If were less optimistic in the modelling may lead to more recovery being proposed to achieve similar outcomes.
18. Inundation modelling where is it up to. Paul - Only just received the CSIRO models for Barwon Darling and Lower Balonne. Take account of antecedent conditions – medium, wet, and dry. Not in time for Review but will be very useful for implementation and future reviews.

With regard to a request for the 'decision tree' for delivery of environmental water our response is:

We are currently pulling together the Northern Basin Review modelling report, and this will include a full description of the event selection approach adopted for the Barwon–Darling. The decision tree will be clearly outlined in the report, and the accompanying text will place the decision tree in context with the whole modelling process. The description will also reflect our discussions over the past year describing the coordinated watering approach.

We are planning to distribute all documents publicly in October, but we should be able to share a draft of the modelling

methodology section in early-to-mid September.

2. Macquarie River Food and Fibre

MRFF were asked whether their issues had been covered –

11. Grant - main point is want to see assumptions up front, see evidence in the reporting. Also asked about what is going to happen about pumping downstream of Corinda and its effect on extra flows to the Barwon Darling.
12. Also referred to requests from previous meeting – overlay of results with a 30 year chosen period. [s.4

– will respond just waiting on some calibration info.

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19. John referred to a NSW implementation plan for protection of environmental flows. MDBA – being assessed but is a NSW document.
20. Michelle – Why weren't local reductions reviewed? Justification of local recovery – equity between valleys. Response – Science was prioritised to Lower Balonne and Barwon Darling but didn't exclude changes to any local reduction. There has been a brief review of whether the new science suggests that the env water requirements (SFIs) in the other tribs should change and the answer is no change.

3. Environmental Reports

These were briefly discussed after some attendees had to leave. In particular, how they had been shared, what feedback had been received so far, and the process to make them publically available as soon as possible.

26. Questions were raised as to whether there was a prioritisation of indicators to identify which are the critical indicators, how you are going to achieve them and what are the risks. MDBA noted that this will be included in the environmental outcomes report

discussion, an excerpt of which will soon be on the MDBA website (draft report excerpt to ensure results are available to the broader public as soon as possible).

27. Asked whether or not the new work had changed any of the indicators in the catchments outside the Condamine-Balonne and Barwon-Darling. No, the new science (update to the evidence base) did not warrant a change to the indicators in the other catchments from the time of the Basin Plan as they were still considered fit for purpose, but noting that this was not a detailed analysis.
28. Asked whether the independent review and/or feedback from others had changed the new and revised Condamine-Balonne and Barwon-Darling indicators? No – no new alternative information sources/evidence brought forward that would justify changing the new and revised indicators.
29. For local indicators that are met, it was also asked whether more water was used locally than was needed in the Namoi (similar to Macquarie Food and Fibre query). Response – Macquarie indicators were the only ones fully met under the current recovery scenario. For the other tribs including B-D there are still indicators not met. IN the Namoi the local indicators are achieved when recover is increased from 13 to 20GL. It was acknowledge that the 20GL also contributes to the shared reduction target for the achievement of environmental outcomes in the B-D.
30. Peta **agreed** to send the Northern Basin Review timeline and process steps out to the group shortly.