Connectivity Expert Panel Webinar Questions

Questions raised prior to and during the Independent Connectivity Expert Panel public webinars held on 1 and 3 May 2024.

Wednesday 1 May 2024

- **Is the assessment of the cumulative impacts on the environmental, economic, social and cultural impacts of floodplain harvesting on downstream water sources being done?**

  Panel response - In terms of specific impact assessment the Connectivity Expert Panel (the panel) has only been asked to consider the potential impact on long-term average annual extraction. We will highlight the benefits we expect from our proposed rules and to the best of our ability assess the potential impact on long-term extraction. We understand that the department will undertake a more detailed impact assessment in deciding how to respond to our Connectivity Expert Panel Final Report (final report).

- **Has the modelling been peer reviewed and by whom?**

  Department response - The models have been peer reviewed by NSW and subsequently by the Murray Darling Basin Authority (MDBA) and then again by an independent reviewer contracted by the MDBA. For the Namoi the model peer review in relation to determining floodplain harvesting entitlements is ongoing.

- **How will the proposed new connectivity contingency in the 4 main storages work? With takeovers happening in business does the government not think it's the right thing to do to notify the Australian Stock Exchange of changes that are being considered.**

  Panel response - The panel will include more detailed recommendations around the connectivity environmental water allowance in the final report

- **How will connectivity of the Namoi and Macquarie rivers and other tributaries of the Barwon River at Walgett, like Pian Creek and Shepherds Warrnambool be improved? We are also interested in interactions between alluvial and surface waters particularly around the Namoi River and the influence of that interaction on the "connectivity".**

Panel response - We expect our rules to contribute to improved connectivity between the tributary valleys and the Barwon Darling. Most of the rivers you are referring to are in unregulated water sources. We recognise that there needs to be equitable restrictions on unregulated systems to ensure that they are not allowed to pump water that has been restricted from the regulated system, and to ensure that they are contributing to connectivity when restrictions are on. We recognise that many of these water sources have “no visible flow” pumping rules allowing users to pump until the river stops flowing. We are considering specific recommendations for unregulated water sources for the final report. We recognise there may be additional challenges in the Macquarie regulated system, due to the influence of the Macquarie Marshes and their tendency to attenuate and store upstream flows.

We fully recognise the interaction between alluvial groundwater and surface water is very important in catchments like the Namoi Valley. However, due to the limited timeframe available the panel hasn't been able to consider this in detail.

- **How will this Connectivity Expert Panel Interim Report (interim report), if implemented in full, affect the reliability of general security supplementary and floodplain harvesting licensed entitlements in each of the affected valleys in northern NSW?**

  Panel response- As we have explained, this is something we are working on now to try to be able to answer as thoroughly as we can for our final report.

- **Is there a water buy back planned for the Lower Darling Zone 14?**

  Department response – water buy backs are undertaken by the Australian Government. Further information on their buy back program is available at Australian Government water purchasing in the Murray–Darling Basin - DCCEEW

- **What considerations to current planning arrangements, licences and agreements were made in developing the interim recommendations?**

  Panel response - The panel has considered the current rules in the water sharing plans and made recommendations regarding where we think changes are necessary to achieve connectivity outcomes. The department (or whatever governing body the Minister may assign) would be responsible for the details of how any specific recommendations that are adopted are implemented.

- **How do the proposed targets interact with each other? Are they regionally based, e.g. the Mungindi targets apply to Border Rivers only? Or are they linked, e.g. would falling below the 90 day minimum target level at any of the 7 gauges impact all northern basin allocations? The same question applies to lifting targets. Do all lifting targets need to be met before resumption of normal allocation rules or are they regionally based?**

  Panel response - The panel's approach to-date has been whenever downstream (connectivity) needs are not being met, access to uncontrolled flows should be restricted. However, once it becomes clear (through forecasting, where possible) that sufficient flows have been protected to ensure that downstream needs will be met, restrictions should be lifted.

  For the "non-dry" time rules there would be end of system flow targets within the valleys - so those rules would be valley by valley. However, for the resumption of flow rule our current thinking is that we would relax restrictions from the top of the system downward to ensure downstream users cannot extract water that was protected from upstream users. However, we realise there are complexities around how and when flows may come from different valleys and recognise that we need to consider this further for the final report.

  The panel will consider this further in the modelling currently being undertaken. While we hope to be in a position to comment on this further in the final report, it is envisaged that more detailed modelling may be required (in the future) to 'optimise' the rules, including ensuring they are not overly complicated to implement in practice.

- **Are the proposed lifting targets based on for forecasted water flows once measurable volumes are flowing passed upstream gauges or actual water at the gauges where targets are listed? E.g. does there need to be 1400ML at Wilcannia for 10 days before restrictions are lifted at Boggabri, or would restriction be lifted once WaterNSW has forecast the targets will be reached?**

  Panel response - The panel has indicated in the initial report which targets would be forecasted and which would be measured. Generally, the longer downstream targets are proposed to be forecasted. We recognise that not forecasting is likely to increase the impact on users. Our objective is to try to achieve the targets as efficiently as possible. However, we also recognise there are still real limitations to the ability to forecast multi-valley events and we are continuing to engage with the agencies on these issues. Restrictions are proposed to be lifted from upstream downward so that water restricted from upstream use cannot be extracted by downstream users

- If allocations a restricted during dry times is there capacity to have the volume of water that has been forgone from accounts reallocated to accounts and made available after the dry period is over and restrictions are lifted?

  Department response - This is an offsetting option that was proposed as part of the Western Regional Water Strategy and requires further analysis before any decision is made.

- How were the day targets arrived at to trigger low flows and lifting of restrictions arrived at i.e. 90 days and 10 days?

  Panel response - The low flow triggers are based on the base-flow magnitudes reported in the long-term water plan. The 90 days duration was based off the existing resumption of flow rule at Wilcannia, which is a period over which water quality in the weir remains at low risk for human consumption. Analysis of historical flows showed that 90 days was a suitable duration at the other locations based on the flow thresholds chosen.

  The lifting target magnitudes and durations were based off a flow that represents a small fresh sized flow through the system. The basis of choosing a small fresh is to allow a flow of sufficient size to make it all the way through to Menindee, and to ensure that pools along the way are sufficiently refreshed.

- 6.2.1 Paragraphs 3 & 4: Connectivity Environmental Watering allowance. *The recommended connectivity environmental water allowance would require allocating water in each of the major dams to provide for connectivity for at a minimum achieving end of system flows during non-dry times and providing for pulses during dry times. The extent of the impact will depend on the volume that is determined to be necessary to achieve intended outcomes. This will be assessed for the final report. We recognise that the allocation would need to come from what is currently used for general security storage, which will impact on access for general security users.*

  The department had not previously modelled impacts of this option. The panel is looking to develop a strategy for this proposal, taking into account its importance to achieving connectivity and doing so with minimal impacts on other water users. What will the proposal look like to reduce general security allocation and place it into the connectivity environmental water allowance account? During dry times, when no water is being allocated to general security accounts, how would this be achieved?

Panel response - The panel is still examining the specifics of how this would work. However, the intent would be that the Environmental Water Allowance would have a high level of security (higher than **general security**) and would be set aside to allow for environmental purposes, rather than acting as a general security account. The department has indicated there are a variety of ways this could work, and we will work through which is most likely to achieve outcomes with minimal impact.

- **Through the Expert Panel's modelling, how much water is expected to be added to rivers over a typical 10- or 20-year period?**

  Panel response - As explained in our interim report, we have not yet had our rules fully modelled and therefore we cannot yet answer this question. We focused for the interim report on trying to be clear about what the ecological and hydrological needs of the system are in terms of connectivity and rules that are most likely to achieve that. We are working to try to understand how best to achieve those targets in a way that maximises outcomes and minimises negative impacts. This is our main focus for the final report.

- **What provisions will the Expert Panel recommend the Minster for Water put in place to prepare licence holders and their communities for impacts associated with water-sharing rule changes?**

  Panel response - The implementation of any recommendations taken up will be the responsibility of the department (or other governing body if the Minister assigns one). Any changes to water sharing plan rules to our understanding would be undertaken as part of the water sharing plan remakes - the department has an extensive process for consulting on changes to water sharing plans, including publication of draft plans for exhibition and collecting submissions.

- **What adjustment assistance is immediately available to impacted stakeholders in the Northern Basin?**

  Department response - No adjustment assistance is currently available as no changes have been made to water users' access. The interim findings and recommendations are the views of the panel. The Minister, supported by the department, will review all findings and recommendations in the panel's final report and determine next steps. This will include

analysis to understand the benefits and impacts of the panel's recommendations, before deciding which ones to progress.

- **Are the proposed timings for managed flow events aligned with the migration needs of Australian native fish and to what extent?**

  Panel response - The proposed flow targets have been developed to provide connectivity more generally, rather than being specifically focused on allowing fish to migrate through the system. Having said that, we have suggested that the small and large fresh flows be timed to coincide with periods where water temperatures would be in a range suitable for most native fish to migrate and spawn, and increased baseflows through the system would allow fish to move more freely through localised reaches of the river.

- **Can you quantify the volume of forgone supplementary and floodplain harvesting water access, and demonstrate how that would have made the difference in delivering your recommended downstream flow targets over the past 40 years of gauged data?**

  Panel response - As we have explained, this is something we are working on now to try to be able to answer as thoroughly as we can for our final report.

- **During zero flows in the Baawan-Baaka, towns use the volume of water in weir pools which creates an airspace that captures small flow events and prevents continuity and connectivity of flow (see paper by Mallen-Cooper & Zampatti 2020) for an example in the 2019 drought). What are your thoughts on the impacts of weirs in the Baawan-Baaka on connectivity of flow, and how to address this issue?**

  Panel response - As you say, during dry times, weirs along the Barwon-Darling have an influence on the connectivity of flow, given it takes time to fill each weir pool before it spills. However, town weir pools are often a lot larger than natural pools in the system and as such provide important longer term refugia in the system during dry times. We consider by maintaining baseflows in the system for longer going into dry periods, then the impact of weir drawn down in town weir pools will be minimised. From an ecological point of view, improving the fishways on weirs along the system will go a long way to improving the movement opportunities of fish and other aquatic animals through the system.

- **How have the panel considered the existing legal frameworks and agreements in place in making their recommendations? What evidence did the panel use to determine the flow rates? What evidence did the panel use to consider the benefits and impacts of recommended flow rates?**

  Panel response - The panel is not sure what's meant by the first question. The panel considered the *NSW Water Management Act* requirements and the water sharing plan rules.

- **What planning has the departments undertaken regarding the inadequate gauging (and understanding of existing gauges), at least from the Darling and Tallywalka?**

  Department response - The department did a review of the hydrometric network in association with WaterNSW and put forward a hydrometric improvement plan.

- **To what extent are the proposed changes necessary to satisfy the *Water Management Act 2000* priority of use requirements?**

  Panel response - The panel has commented in the interim report on its view that the recommendations would better achieve the priorities specified in Section 5(3).

- **Has the panel assessed the experience of the resumption of flow rules in the Barwon-Darling?**

  Panel response – Yes, the panel did assess the resumption of flow rule and the reports on experiences with it to date. We have based our recommendations on a modification of that rule. Department documentation indicates that the current rule was only designed to provide connectivity down to Wilcannia. As such the current rule has restrictions that are higher in the flow regime at upstream locations and gradually reduce to well below baseflow by Wilcannia. The panel does not support this. We have recommended that a full small fresh should be achieved through Wilcannia to achieve the ecological and human health needs that are targeted.

- **What are the challenges in protecting inflows in Menindee? Will the panel be making recommendations about how Menindee is operated and managed?**

  Panel response - The panel aims to have more detailed recommendations regarding Menindee in the final report. We also note that the Natural Resources Commission is undertaking an in-depth analysis of these issues as part of their review of the Murray and Lower Darling water sharing plan, which is currently underway. The panel will consider any

initial findings provided by the Natural Resources Commission, but they may provide more detailed recommendations in their water sharing plan review report.

- **What peer review of the long-term water plans were undertaken?**

  Panel response – Long-term water plans are NSW Government documents, and they are based on a large body of peer reviewed literature.

- **Are the panel's rules changes separate and additional to the Basin Plan's water recovery?**

  Panel response - The panel is recommending these changes independent of the Basin Plan water recovery.

- **How does the panel and the department expect informed feedback and comment on the interim report without any actual evidence for the benefits and impacts, other than concepts?**

  Panel response - The interim report was requested by the Minister for Water to provide transparency around the progress of the panel and the approach being taken to our analysis. There will be a full engagement process following the final report, which will include evidence regarding potential impacts and benefits.

Friday 3 May 2024

- **Has there been any analysis of the cost of implementation or any economic impact statement? When and how will an economic report on this proposal be available?**

  Department response - No assessment of the economic impact of the panel's recommendations has occurred to date. Following the submission of the panel's final report, the department will undertake additional analysis to inform next steps. This will include analysis of the economic impacts of the recommendations.

- **In the Macquarie, how do you propose to get water onto the floodplain where it requires more than a flow of 3200 ML a day, such as the water couch country in the eastern Macquarie Marshes - a critical water bird feeding ground and RAMSAR site.**

  Panel response - Inundating floodplains is outside of the scope of the panel's reports as we are focussed on in-channel flows to improve connectivity. Rules in the water sharing plan are

focused on achieving in valley outcomes. Environmental water managers also use their water to provide for floodplain and wetlands within the valleys.

- The interim report notes: "*The Panel has remained acutely aware of the potential impacts of recommendations on upstream users. Unfortunately, we have identified considerable shortcomings of the modelling available, which make it difficult to fully assess the potential impacts to upstream users and to accurately assess the benefits to downstream communities of our proposed rules.*" Yet the panel still made recommendations, can you please explain?

  Panel response - As discussed, the panel has started with identifying connectivity needs from ecological and hydrological perspective. We then moved on to working through how those could best be achieved. What we are saying is that it's not a simple task to model this suite of rules due to the limitations of the models and complexity of the rules. We aren't saying it can't be done - we're saying it will take time and it is not ready yet for this interim report.

- How will the Water Group consider implementing the Panel's reports recommendations, so they meet the requirements in the Water Management Act?

  Department response - The department will review all recommendations in the panel's final report and consider next steps. Part of this will be reviewing how the recommendations align with the principles and objectives of the *Water Management Act 2000* have been considered, applied and reviewed consistent with Act requirements.

- Can you please provide information on when an economic impact statement will be available?

  Panel response - The panel was asked to consider the potential impacts on the long-term average annual extraction from the recommendation. The intent is to be able to provide these estimates for the final report. The department will subsequently undertake further socio-economic impact assessment.

- Will Toorale and its infrastructure that impedes connectivity, be looked at through this process?

Panel response - Not directly, but the existing plan of management for the structures at Toorale does allow flows coming down the Warrego to pass through to the Darling before it can be diverted to the Western Floodplain, so this would assist in meeting our proposed rules during dry times. Flows down the Warrego could also contribute at other times but that would be at the discretion of the department dependent on the prevailing conditions.

- **How can any stakeholder make a reasonable judgment on the impact of the proposed rules on increased connectivity, reduced extractive availability and socio-economic impacts when this interim report provides no data?**

  Panel response - The panel has been transparent that this is an interim report which was released to allow stakeholders to understand the process the panel is undertaking and status of findings at the time of the report. The final report will include an assessment of potential impacts on long-term extraction and there will be a consultation process undertaken by the department following release of the final report.

- **Has there been any attempt to quantify the achievements to date?**

  Panel response - The final report will include discussion of how the proposed rules are estimated to perform in achieving targets relative to current rules.

- **The Murray-Darling Basin Plan (the Plan) will reduce sustainable diversion limits in the Northern Basin by a minimum of 320GL (long term average annual).**
  - **why is the contribution of the Plan not mentioned once in the Interim Report?**
  - **was the impact on connectivity of this additional water modelled?**

  Panel response - According to the department the models that are being used to assess the panel's rules include all the latest rules and entitlements, as such analysis of the rules includes recent changes. However, it's also important to recognise that the panel has focused on flow targets, with rules implemented based on actual flows in the river. If the additional water from the sustainable diversion limit reduction, or any other changes result in the achievement of the targets, then restrictions will not be required. In this way all the current conditions will be inherently considered in implementation of the rules.

- **The First Flush rules have been incorporated into the Barwon-Darling Water Sharing Plan, were the impact of these rule changes measured and/or modelled as part of this report?**

  Panel response - See response above.

- **Was there any attempt to quantify the benefits of the implementation of the active management rules, the implementation of IDECs and the raising of A Class thresholds?**

  Panel response - See response above.

- **Why have the significant reductions in floodplain harvesting volumes (30% reductions) resulting from licences not been recognised? Can they be recognised in this review?**

  Panel response - See response above.

- **Has there been any recognition of the application of the North-West Flow Plan as detailed in Schedule 2 in Gwydir, Schedule 1 in Border Rivers water sharing plans?**

  Panel response - Despite the rules included in the water sharing plans, the North-West Flow Plan as detailed in Schedule 2 in the Gwydir and Schedule 1 in the Border Rivers water sharing plans has not been implemented. This has been confirmed by both WaterNSW and the department.

- **What evidence has been used to develop the recommendations in the report, including**
  - **Environmental targets,**
  - **Socio-economic impacts,**
  - **Benefits and outcomes from the recommendations.**

  Panel response - The panel feels that this has been adequately addressed in the report.

- **What gauges are you referring to in Table 5, Table 6, Table 7, Table 8, Table 9 of the interim report?**
  - Panel response: The gauges referred to are: Mungindi (416001 – Barwon R @ Mungindi)
  - Collarenebri (422003 – Barwon R @ Collarenebri)
  - Walgett (422001 – Barwon R @ Dangar Bridge)
  - Brewarrina (422002 Barwon R @ Brewarrina)
  - Bourke (425003 Darling R @ Bourke Town)

- Louth (425004 – Darling R @ Louth)
- Wilcannia (425008 – Darling R @ Wilcannia Main C)

- **Why was Figure 4 (page 26 interim report), purporting to show decreased mean annual flow in the Lower Darling only based on data from 1972? If the gauge only existed since then, why was another site with a lot longer gauging history used?**

  Panel response - The data shown in Figure 4 was intended to demonstrate how extended periods of very low flows at Wilcannia have increased over the last couple of decades (20 years) compared to the three decades (30 years) before that. This corresponds to the 50 years of flows data that is readily available from the Water Insights and Bureau of Meteorology websites.

- **In the southern connected system, most flows used for extraction are captured by the headwater storages, while in the north of the Basin it is the minority.**
  - **Is it not true that there is larger total extraction (percentage wise) of total inflows in the southern basin than in the northern basin? 50% extraction?**
  - **Why does the interim report not recognise this?**
  - **Why does the interim report choose to demonise supplementary take, floodplain harvesting and unregulated access as some type of additional take, rather than considering total take and what is left for the environment?**

  Panel response - The panel was specifically asked to consider potential restrictions on supplementary and floodplain harvesting and how they might contribute to improved connectivity. We were subsequently asked to consider other rules that might also contribute to connectivity and have therefore made recommendations such as releases from dams for end of system flow rules and potential restrictions in unregulated systems. It is not clear why the comparison to the Southern Basin is relevant. The panel has examined what the connectivity needs in the Northern Basin are and provided recommendations for how to achieve them.

- **Are the recommended targets for restricting and lifting access forecast targets, modelled water flows or actual targets? For example, for the lifting targets does there need to be 1400ML at Wilcannia for 10 days before restrictions are lifted at**

Boggabri, or would restriction be lifted once WaterNSW has forecast the targets will be reached? What is the intent and how could the targets be applied?

Panel response - The interim report specifies which targets are meant to be forecasted and which have to be fully met before restrictions are lifted. The panel is discussing rules with WaterNSW and the department to identify any concerns with implementation.

- **How do the proposed targets interact with each other?**
  - **Are they regionally based, e.g. the Mungindi targets apply to Border Rivers only.**
  - **Or are they linked, e.g. would falling below the 90-day minimum target level at any of the 7 gauges impact all northern basin allocations?**
  - **The same question applies to lifting targets. Do all lifting targets need to be met before resumption of normal allocation rules or are they regionally based?**

Panel response - The panel will comment further on this in the final report.

- **How will the various cease and commence to start rules be applied?**

  Panel response - The panel will comment further on this in the final report.

- **Have the channel constraint issues that particularly apply in the Gwydir and Macquarie valleys been considered? How do you propose to achieve the recommended targets given channel capacity?**

  Panel response - The panel has not recommended restrictions during large flows, except potentially during the resumption of flow rule.

- **How do you envisage the proposed new "connectivity environmental watering allowances" or enhanced "environmental contingency allowances" being created?**
  - **What volume of water is expected in each of the valleys?**
  - **Is this over and above the existing environmental contingency allowances and existing CEWH entitlements?**
  - **Will they be holding the entire volumes in each of the storages, or just spread the % over the storages?**

Panel response - The details of the connectivity environmental watering allowance are still being considered and will be discussed further in the final report.

- **If allocations are restricted during dry times is there capacity to have the volume of water that has been forgone reallocated to accounts and made available after the dry period is over?**

  Department response - This will be investigated by the department after the panel's final report is provided to the Minister.

- **What are the benefits to the river and the riverine environment? How will fish and other aquatic species benefit? What about town water supplies, riparian water use and other critical human needs?"**

  Panel response - Connectivity is vital for fish movement and survival and it also mediates water quality in the deeper reaches and pools which provides positive outcomes for all aquatic species. Connectivity also reduces transmission losses of water when flow returns to dry channels. Increasing the frequency and duration of connectivity will have positive impacts on town water supplies, riparian water use and cultural outcomes.

- **When are these recommended targets proposed to be implemented?**

  Department response - The panel is providing independent expert advice to the Minister. Their reports reflect the views of the panel and is not government policy. The panel will provide its final report to the Minister who may choose to seek further information from the department if required, before determining next steps. The priorities of the Water Management Act will inform any decisions made by the Minister. Public consultation will occur on any proposed water sharing plan rule changes.

- **The panel is relying on the long-term water plans for its recommendations, but the plans themselves has below disclaimer. Can you please explain how the panel has overcome this disclaimer to demonstrate an evidence base that its proposed rules changes will deliver its recommended size and frequency flow regimes?**

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Panel response - This is a standard disclosure statement. The panel maintains that the long-term water plans currently provide best available information regarding the ecosystem needs in regards to connectivity.

- **Could you please confirm that the long-term water plans have been peer reviewed, and if the proposals were ground-truthed to assess the reality of the proposals**

  Panel response - While the long-term water plans have not been peer reviewed, the vast majority of the extensive scientific literature on which they were based was peer reviewed. It's not clear what is meant by whether "the proposals were ground-truthed". The panel is confident that the proposed rules are implementable and has consulted with the department and WaterNSW.

- **Are all the models peer reviewed, fit for purpose and provide accuracy regarding actual flows in valleys from all regulated and regulated water sources which contribute to flows**

  Department response - The relevant departmental hydrologic models have been peer reviewed and subsequently by the MDBA and then again by an independent reviewer appointed by the MDBA. For the Namoi the NSW model peer review in relation to determining floodplain harvesting entitlements is ongoing. It will be reviewed by the MDBA and its reviewer as part of the water resource plan accreditation.

- **Could you please indicate how frequently the base flow targets and the small and large fresh target were achieved before regulation of the various tributaries?**

  Department response - This information will be provided as part of the panel's final report.

- **How would the creation of an environmental water allowance in storages from general security allocations to maintain the panel recommended baseflow affect the water available to the CEWH through allocations to its held environmental water general security entitlements? For example, 29% of general security allocation held in Copeton Dam is held environmental water.**

  Panel response - CEWH general security would be treated the same as any other general security.

- **The panel mentioned a relationship between fish deaths and flows. However, of the two main fish deaths events, one occurred during a raging drought, and one at the end of one of the largest floods that has occurred in decades, so flow does not appear to be the main cause. What is the real evidence of additional flows making a difference? The Chief Scientist said in Budget Estimates that the last event was not a question of flow in his opinion, but water quality, further, they more or less predicted it in their review of the 2023 fish deaths.**

  Panel response - Lack of flow contributed to the fish deaths in 2018-2019. Connectivity upstream of Wilcannia would have allowed more fish to move upstream away from the weir pools around Menindee, reducing the biomass of fish in the area and consequently reducing the severity of the fish deaths (in terms of numbers). The 2023 fish deaths relate to stranding between weir pools.

  The report from the Office of the Chief Scientist is clear that both flows and water quality should be considered in improving management of the system.

- **Could the extra water proposed for the system be supplied from the Commonwealth Environmental Water Holder's (CEWH) entitlement?**

  Department response - CEWH owns the entitlements and NSW cannot direct the CEWH how to act. Just like we can't direct any other entitlement holder how they use their water.

- **What impact will the implementation of these rules have on Victoria and NSW allocations in the future? Will all future flows into Menindee be considered environmental flows?**

  Panel response - The panel is recommending that any additional flow to Menindee Lakes from these rules should be protected for environmental use. However, we recognise that will need to be negotiated through the various agreements which regulate the Menindee lakes.

- **Have the impacts of the additional water recovered under the Basin Plan, and the impact of the first flush rules been modelled?**

  Panel response - The department has indicated that the models used reflect the current rules and entitlements.

- **Will the department's analysis after the final report be comprehensive as detailed in page 73 in the interim report or simply the basic cost-benefit analysis?**

Department response - The department will assess the economic consequences to water users and regional communities of the panel's recommendations that may arise due to reductions in the amount of water they can take. The analysis will be done on a daily timestep, examining how the size of crops and the productivity of those crops change as a result of the Panel's recommendations. Regional implications will be assessed based on the estimated economic consequences for irrigators. This analysis will provide an assessment of the long-term average annual impacts as well as how the impact may vary between years, depending on overall water availability.

The department's approach adheres to Treasury guidance.

- **The interim report does not appear to provide any long-term evidence of reduced connectivity over the full term of records, was this looked at?**

  Panel response - The panel is of the view that the report adequately covers evidence of reduced connectivity.

- **As the dams have had environmental impacts in the tributaries and the Darling Baaka, is it reasonable for the water recovered in the tributaries to be used for both tributary and Baaka benefits?**

  Panel response - There will be benefits within valley from the proposed rules, particularly through the release of flows for achievement of end of system baseflows.

- **It was stated that this connectivity water would NOT wet the eastern Macquarie Marshes and its Ramsar site. This indicates that the principle of the Water Management Act to maintain the water source and its water dependent ecosystem will not be met.**

  Panel response - Connectivity concepts with this review are focussed on baseflow and small fresh - by increasing the frequency and duration of these lower flows it should allow larger flows to penetrate further through the system more frequently and this will have positive effects on the Marshes.

- **Is this interim report trying to improve on what nature used to do before regulation?**

  Panel response - No, this is not the intention of the proposed rules. In some areas (such as baseflows) the panel would like to see flows improved to something closer to or similar to pre-

development levels, but we are not proposing that rivers flows need to be better than pre-development flows.

- **Was the panel aware of / or included the contributions to connectivity made by the downstream shares of sustainable diversion limit volumes recovered under the basin plan (held by CEWH)?**

  Panel response - Please see previous responses.

- **Will this webinar be posted online anywhere?**

  Department response - Yes, both webinars are available on the department web site.

- **Regarding the Commonwealth water it must be recognized that only a relatively small amount of their recovery is regulated water, the vast majority comes from inflows below the dams when it rains, so surely it can be modelled, as the CEWH can't control those flows.**

  Panel response - Please see previous responses regarding how the flow targets are based on actual flows.

- **Does the panel have any impact on how the MDBA water sharing plans will change during the reviews or will this just be seen as recommendations?**

  Department response - The Basin Plan water resource plans will be amended when NSW makes changes to its water sharing plans. This is a requirement under the Commonwealth Water Act.

- **Will these recommendations assist to restore indigenous cultural practices along the length of the Barwon-Darling?**

  Panel response - The panel is of the view that if implemented the proposed rules would improve cultural outcomes across the Northern Basin, particularly through the increased frequency of baseflows providing for more frequently flowing rivers.

- **Did the panel consider what differences in flows, meeting of environmental watering requirements and diversions would occur if all the North-West Flow Plan rules, which are in existing water sharing plans, were consistently implemented? How would this compare with current and recommended rules?**

  Panel response - The panel has some limited modelling of this and will comment on this in the final report.