

## **Abridged Biographies**

### **Dr John Cooke**

*Dr Cooke has worked across the fields of soil conservation environmental land and water management, salinity and irrigation water, and in water management policy in the Southern Murray Darling Basin. He developed strategic linkages with key stakeholders, including rural water authorities, local, state and federal government, private developers and Catchment Management Authorities.*

Summary Paragraph Citation for award of Degree Doctor of Science (*honoris causa*),

*Deputy Chancellor, in recognition of his contribution to the field of natural resource management, inspirational leadership and significant community service achievements, I present to you for the award of the degree Doctor of Science (honoris causa), Dr John William Cooke.*

### **Howard Jones**

*Howard has been heavily involved in his community through sport, horticulture and water issues for 40 years. He has chaired a number of Advisory Boards over the past 21 years. Howard's interest in wetland management led him to become Chair of Murray Wetlands Working Group Ltd for 21 years and a member of the Basin Community Committee (MDBA) for the last 7 years.*

### **Mr Barrie MacMillan**

*Barrie's interest in the Basin Plan relates to it achieving sustainable rivers for all stakeholders in the community. My former employment roles centred on processing irrigated food products, with Mildura Co-operative Fruit Co. Ltd for 31 years and with dried fruit marketing as a Board member of Australian Dried Fruit Sales P/L (later known as Sunbeam Foods) for 26 years. Dried fruit was marketed in bulk and consumer packs on both domestic and export markets. Since retirement, I have served as a Board member on statutory regional state catchment management authorities and rural and urban water authorities.*

**Submission to The Independent assessment of the management of the Northern Basin First Flush event:  
Summary of Recommendations**

Submitted by Howard Jones, Barrie MacMillan and Dr John Cooke

**Recommendation Objective 1**

1. That the Review Panel pay particular regard to the lack of transparency around how the Minister or Delegate addressed the sub-clauses under the *Water Management Act 2000* in allowing the *take of water*. In particular:
  - a. the appropriateness of relying on a weather forecast to lift restrictions on Class C licences. The river and associated wetlands had suffered from both a record-breaking drought and the upstream taking of water for irrigation, in the years leading up to the drought;
  - b. lifting restrictions on C Class Licences prior to an allocation being made to High or GS Licence in Menindee or Lower Darling;
  - c. that reductions in take for irrigation early in the season are often offset by gains from later flow events under C Class licence conditions; and
  - d. how *critical needs* and the *hardship imposed* on northern irrigators were balanced given that the forecasted rainfall was received unevenly and not as predicted.
2. **Recommendation Objective 2:**
  - a. transparency would be substantially improved through the division of the *targets and principles* document into 3 separate but linked and sequential documents;
    - i. *seasonal conditions and water availability*;
    - ii. *applying and retracting restrictions*; and a
    - iii. *review of actions taken and their effects (a debrief)*.
  - b. the key findings and recommended actions flowing from each debrief should be open to public access.
  - c. it is not too late to undertake a debrief of the period *mid-January and early February 2020*. There is an immediate imperative to define and describe the decision process given that the drought conditions had not fully abated at the time of the decision, nor since.
3. **Recommendation Objective 2 (a)** There is a necessity to:
  - a. have regard to the *median inflows into the Menindee Lakes being reduced by about 80% in the last 20 years relative to the recorded period prior*;
  - b. implement a monitoring and review process to evaluate performance against objectives and targets in the short term (3-5 years). A formal review is also needed in the longer term of 15 years.
4. **Response to Objective 2 (b)** That the management arrangements of a *first flush* event in the Barwon-Darling River have regard to:
  - a. the need for clarity around how *first flush* decisions are applied in the context of the present federal, state and regional requirements for accountability. The link between the decisions taken, and the present legal and administrative imperatives on which the decisions are based, is not provided;
  - b. the Darling-Barwon being a *pseudo* regulated river. It is neither a fully *regulated* River nor a fully *unregulated* river. Its management would benefit by adopting end-of valley targets that are more robust and enforceable, as is the case in *regulated* rivers.
  - c. give priority to setting robust and enforceable end-of-valley targets sufficient for 2 or more years, at both Wilcannia and Menindee (for flows) and within the Menindee Lakes (for volumes); and
  - d. taking a science based approach to setting targets that are deemed fit-for-purpose, independently reviewed. The process should be open to the public.

End

Submission to: The Independent assessment of the management of the Northern Basin First Flush event

Submitted by Howard Jones, Barrie MacMillan and Dr John Cooke

## Background

In making this submission we have full confidence that the *Independent Panel* will provide transparency about the decision-making processes that were used to manage the events during the period mid-January and early February 2020.

We recognise and appreciate that the scope of the submission is addressed in the statement (*copied from TOR*).

*In mid-January and early February 2020, northern NSW experienced the first rainfall events following record drought conditions. A series of temporary water restrictions were introduced, including to restrict the take of water by floodplain harvesting works, to actively manage the first flows and prioritise water security for critical human needs*

Our submission will draw on *Northern Basin temporary water restrictions: targets and principles*<sup>1</sup> and in particular:

*The volumetric targets were interim and were adopted as a guide to decision-making as the Northern Basin rainfall events unfolded. The extent to which the targets were met, the appropriateness of the targets, and the outcomes of the restrictions are being further evaluated.*

We also encourage the *Independent Panel* to have regard to<sup>2</sup> the progress being made in implementing commitments contained in *Securing our water* (2017)<sup>3</sup>.

## Part A Our Approach to Objective 1

Objective 1 is to:

*Provide transparency about the decision-making processes that were used to manage the event under the Water Management Act 2000.*

### **Background to our Recommendations Objective 1**

1. The *Water Management Act 2000* Clause 324 *Temporary water restrictions* (EndNote)<sup>i</sup> appears to have the necessary powers to restrict the taking of water for a specified reason and for a specified period. These powers appear adequate to address the conditions being experienced during *the first flush event following the 2018-2019 drought in the Northern Basin* (T.O.R Independent Panel).
2. Pumping was *restricted* from the Barwon-Darling River, below the Culgoa River Junction, for A, B and C class licences until 6 March 2020<sup>4</sup>. The *restrictions* for all of A, B, and C class licences were lifted on that day.

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<sup>1</sup> For the purpose of this Submission the term *targets and principles* is used as an abbreviation of *Northern Basin temporary water restrictions: targets and principles*.

<sup>2</sup> The term have-regard-to and words to that effect will be used consistent with the *Note* on Page 12 of the Basin Plan.

<sup>3</sup> *Securing our water- NSW Government water reform action plan* (2017).

<sup>4</sup> *NSW Government Approval to take under Temporary Water Restrictions Responsive management of temporary water restrictions* 6 March 2020 (undated).

3. It is not transparent whether the Minister or delegate considered the relevant specific condition (*or is subject to specified restrictions*) in deciding to lift the restriction on the *C class licences*. The Minister should have had regard to:
  - a. an allocation for High or GS Licences in Menindee or Lower Darling<sup>5 6</sup> had not been made; and
  - b. the Lower Darling being reduced to a string of pools and long stretches of the river being without water during both the drought, but also immediately before the drought.
4. The Minister or delegate could have decided to lift restrictions for:
  - a. a period of less than 3 days (*for a specified period*);
  - b. only A and B Class licences but not C Class Licences (*or is subject to specified restrictions*); or
  - c. not at all on the basis of public interest (*satisfied that it is necessary to do so in the public interest*).
5. The reasoning for the decision to lift restrictions on *A, B and C class licences* and for the period of 3 days is not transparent.

***Recommendation Objective 1***

6. That the Review Panel pay particular regard to the lack of transparency around how the Minister or Delegate addressed the sub-clauses under the *Water Management Act 2000*<sup>ii</sup> in allowing the *take of water*. In particular:
  - a. the appropriateness of relying on a weather forecast to lift restrictions on Class C licences. The river and associated wetlands had suffered from both a record-breaking drought and the upstream taking of water for irrigation, in the years leading up to the drought<sup>7</sup>;
  - b. lifting restrictions on C Class Licences prior to an allocation being made to High or GS Licence in Menindee or Lower Darling;
  - c. that reductions in take for irrigation early in the season are often offset by gains from later flow events under C Class licence conditions; and
  - d. how *critical needs* and the *hardship imposed*<sup>8</sup> on northern irrigators were balanced given that the forecasted rainfall was received unevenly and not as predicted.

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<sup>5</sup> Fact Sheet 5 March 2020 *Northern Basin temporary water restrictions*

<sup>6</sup> Not dated *Northern Basin temporary water restrictions: targets and principles*

<sup>7</sup> Vertessy et al. (2019) Figure 3.4 Final Report Independent Panel fish deaths lower Darling 4

<sup>8</sup> NSW Government *Northern Basin temporary water restrictions: targets and principles Namoi 18 February 2020*

## **PART B Our approach to *Objective 2***

7. Objective 2 is to:
  - a. *Recommend strategies to improve the management of first flush events under the Water Management Act 2000 in the future;*
  - b. *Objectives 2 is in two parts, 2 (a) and 2 (b); and*
  - c. our response to *Objective 2* will be largely addressed through our response to parts, 2 (a) and 2 (b);

### ***Background to our Recommendation Objective 2***

*Seeking transparency around how an event is managed: a three step approach*

8. Acting to impose *restrictions* or retract *restrictions* appears to be straight forward, and be readily applied. What is not straight forward is how the regulations and accompanying operational guidelines<sup>9</sup> on which the decisions are based were evaluated<sup>10</sup>.
9. Transparency would be improved through the division of the *targets and principles* document into 3 separate but linked and sequential documents. For the purpose of this submission the following terms will be used to designate the proposed documents: *seasonal conditions and water availability*; *applying and retracting restrictions*; and a *review of actions taken and their effects*.

### ***Proposed Document 1- seasonal conditions and water availability***

10. Climatic conditions and water availability change with the seasons but so too does the increasing uncertainty around: future weather; the likely water yield from dry catchments, and the potential losses along the river. The proposed *seasonal conditions and water availability* document would be prepared, once the potential need to apply *restrictions* is recognised. The document should be publicly available. It should be reviewed and be regularly revised if necessary in the lead up to when *restrictions* may be imposed or lifted. Much of the necessary information is readily available in the *Regional water availability report-weekly edition*<sup>11</sup>.
11. *Bureau of Meteorology* long range forecasts were taken into consideration in the *targets and principles*. However, there is no explanation around how the forecast information was used, nor its influence on the decisions taken. Reliance on forecasted rainfall is fraught with danger.
12. The projections of the *Bureau of Meteorology* were not subject to a sensitivity analysis. An example of a simple and practical approach to the sensitivity of flows (allocations) to forward projections of weather, is provided monthly in Victoria<sup>12</sup>.

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<sup>9</sup> *The volumetric targets were interim and were adopted as a guide to decision-making as the Northern Basin rainfall events unfolded.*

<sup>10</sup> For example Temporary water restrictions 13 Feb 2020 states *that the main priority is to restart the rivers and meet critical needs as far down stream as possible.*

<sup>11</sup> *Water NSW Regional water availability report-weekly edition*

<sup>12</sup> <https://nvrn.net.au/outlooks>

*Proposed Document 2- applying and retracting restrictions*

13. The proposed document *applying and retracting restrictions* should be more objective and less subjective than the present *targets and principles* document. It would need to be technically based and be in a form that can be technically evaluated in the context of the decisions taken. *WaterNSW* uses such a process for other relevant purposes<sup>13</sup>.
14. We now know that the drought has not fully abated and that the targets used in earlier decisions to lift restrictions would not have been met, had it not been for a later and localised rainfall event.

*Document 3 review of actions taken and their effects*

15. A formal debrief<sup>14</sup> should be undertaken immediately following an action to impose or lift *restrictions*. A debrief would provide a great deal of transparency around decisions taken, and provide greater confidence in the management in future events.
16. Without formal technical review of actions taken and their effects it is not possible to assess the effectiveness of the actions and whether the actions comply with the objectives and targets identified in the *targets and principles*.
17. There is an immediate imperative to define and describe the decision process, given the context that the drought conditions had not fully abated at the time of the decision, nor since.
18. An article published by ABC on 21 May 2020 appears to be the only post-event report. Statements from officers from NSW Government and from the MDBA are included. The sources of the statements made by the officers was not referenced.
19. The entities have formal obligations under the Basin Plan<sup>15</sup> to have regard to the *Water Flow Targets* at Burtundy when making decisions under Basin Plan Clauses 9.14.

*Seeking transparency - balancing objective and subjective approaches*

20. Transparency would be improved if the processes and wording in documents such as in the *targets and principles* were more objective and less subjective. The sections on objectives and targets<sup>16</sup> should be linked to appropriate clauses drawn from operational guidelines, policy and strategies, by way of footnotes. Where a cross reference is provided in *targets and principles*, the reader is directed to *Long Term Water Plans* (Page 2 Para. 1), but these are just proposals at the moment.
21. The targets and principles that were considered are drawn from policies and strategies that range across decades, disciplines and water accounting information, without reference to appropriate clauses. The process cannot be classed as transparent irrespective of whether the decisions made were appropriate.

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<sup>13</sup> Water NSW Lower Darling Update 7 May 2020.

<sup>14</sup> A debrief to be effective needs to follow a proper structure and agreed procedures.

<sup>15</sup> The entities of NSW Water and MDBA are obliged to have regard to the Water Flow Targets at Burtundy when making decisions under Basin Plan Clauses 9.14.

<sup>16</sup> *What were the objectives of the restrictions?* and *What flow targets guided our management of restrictions?*

### *The changing nature of the river and inflows*

The changing nature of the river and inflows was recognised by Vertessy *et al.* and more recently in the Keelty Report<sup>17</sup>. These Reports provide clear evidence that catchment yields are declining and are becoming more variable<sup>18</sup>. It is not clear if the changing nature of the river was considered in the *targets and principles*.

22. The *Barwon-Darling system* is generally classified as an *un-regulated river*, and on that basis is differentiated from *regulated rivers* as is the case for the *Southern Connected Basin*. The many on-farm storage dams, their size and associated works, has led to the *Barwon-Darling system* becoming a *pseudo regulated river*<sup>19</sup>.
23. Robust and enforceable end-of- valley targets are fundamental to the management of *regulated rivers*. Similar levels of robustness and enforceability should be applied in the *Barwon-Darling system*.
24. The magnitude and significance of the changing nature of the river and inflows means that the *targets and principles* will need to be routinely reviewed each 3-5 years. A substantial review will be needed by Year 15, which is now common practice in natural resource management.

## **PART C RESPONSE TO OBJECTIVE 2**

***Response to Objective 2 Recommend strategies to improve the management of first flush events under the Water Management Act 2000 in the future.***

### 25. Response to ***Objective 2***:

- a. transparency would be substantially improved through the division of the *targets and principles* document into 3 separate but linked and sequential documents;
  - i. *seasonal conditions and water availability*;
  - ii. *applying and retracting restrictions*; and a
  - iii. *review of actions taken and their effects (a debrief)*.
- b. the key findings and recommended actions flowing from the debrief should be open to public access.
- c. it is not too late to undertake a debrief of the period from *mid-January and early February 2020*. There is an immediate imperative to define and describe the decision process given that the drought conditions had not fully abated at the time of the decision, nor since.

### 26. Response to ***Objective 2 (a)*** There is a necessity to:

- a. have regard to the *median inflows into the Menindee Lakes being reduced by about 80% in the last 20 years relative to the recorded period prior*;

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<sup>17</sup> Australian Government Interim Inspector General 2020 *Impact of lower inflows on state shares under the Murray Darling Basin Agreement (Keelty Report)*

<sup>18</sup> *Keelty Report* page 12 *Median inflows into the Menindee Lakes have reduced by about 80% in the last 20 years relative to the recorded period prior.*

<sup>19</sup> The term *pseudo* is used for the purpose of this submission.

- b. implement a monitoring and review process to evaluate performance against objectives and targets in the short term (3-5 years). A formal review is also needed in the longer term of 15 years. The background to this recommendation is provided in Clauses 20 & 21 above.

27. **Response to Objective 2 (b)** That the management arrangements of a *first flush* event in the Barwon-Darling River have regard to:

- a. the need for clarity around how *first flush* decisions are applied in the context of the present federal, state and regional requirements for accountability. The link between the decisions taken, and the present legal and administrative imperatives on which the decisions are based, is not provided;
- b. the Darling-Barwon being a *pseudo* regulated river. It is neither a fully *regulated* River nor a fully *unregulated* river. Its management would benefit by adopting end-of valley targets that are more robust and enforceable, as is the case in *regulated* rivers.
- c. give priority to setting robust and enforceable end-of-valley targets sufficient for 2 or more years, at both Wilcannia and Menindee (for flows) and within the Menindee Lakes (for volumes); and
- d. taking a science based approach to setting targets that are deemed fit-for-purpose, independently reviewed. The process should be open to the public.

End

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<sup>i</sup> WATER MANAGEMENT ACT 2000 - SECT 324 **Temporary water restrictions**

*324 Temporary water restrictions*

(1) If satisfied that it is necessary **to do so in the public interest** (such as (but not limited to) to cope with a water shortage, threat to public health or safety or to manage water for environmental purposes), the Minister may, by order in writing, direct that, **for a specified period**, the taking of water from a specified water source is prohibited, or **is subject to specified restrictions**, as the case requires.