AUSTRALIAN SENATE

STANDING COMMITTEE ON RURAL AND REGIONAL AFFAIRS AND TRANSPORT

REFERENCES COMMITTEE

5 April 2012

The Hon Craig Knowles
Chair
Murray-Darling Basin Authority

Via email: craig.knowles@mdba.gov.au

Dear Mr Knowles

I am writing on behalf of the Australian Senate Rural and Regional Affairs and Transport References Committee regarding its Inquiry into the management of the Murray Darling Basin.

During the course of the inquiry, the Committee has become concerned about the lack of information publicly provided by the Murray-Darling Basin Authority (MDBA) to the community and stakeholders that explicitly details the assumptions it has used in developing the Proposed Basin Plan (November 2011), particularly the requirement for a reduction of 2750 GL/y from baseline diversion limits.

Therefore the Committee requests that the MDBA provide a response to the following questions by Friday, 20 April 2012:

1. What assumptions did the MDBA use in determining the target of 2750 GL/y reduction from baseline diversion limits as per the Proposed Basin Plan?
2. What raw data and modelling was relied upon to arrive at the 2750 GL/y figure?
3. Were any other assumptions initially considered but set aside in determining the 2750 GL/y figure?

I also take the opportunity to inform you that the Committee will be holding public hearings for this inquiry in Canberra on 23 and 24 April 2012. The Committee will be inviting representatives of the MDBA to give evidence on one of these dates. The Committee's secretariat will contact the MDBA shortly to make suitable arrangements.

If you require further information on this matter please contact, Mr Stephen Palethorpe, Committee Secretary on 02 6277 3510.

Yours sincerely

Senator the Hon Bill Heffernan
Chair

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Australian Government

MURRAY–DARLING BASIN AUTHORITY

Craig Knowles
Chair

TRIM Ref: D12/14131

Senator the Hon Bill Heffernan
Chair
Senate Rural and Regional Affairs and Transport Reference Committee
PO Box 6100, Parliament House
Canberra ACT 2600

Dear Senator Heffernan

Thank you for your letter of 5 April 2012 regarding the Senate Rural and Regional Affairs and Transport References Committee Inquiry into the management of the Murray Darling Basin.

A response to the questions you have asked is set out below.

1. What assumptions did the MDBA use in determining the target of 2750GL/y reduction from baseline diversion limits as per the Proposed Basin Plan?
2. What raw data and modelling was relied upon to arrive at the 2750GL/y figure?

The Water Act 2007 requires the Murray-Darling Basin Authority (MDBA) prepare a Basin Plan to provide for the integrated management of the Murray-Darling Basin's water resources. Central to the Basin Plan is the need to determine the Environmentally Sustainable Level of Take (ESLT) and associated Sustainable Diversion Limits (SDLs). To inform the determination of the proposed ESLT and SDLs the MDBA has undertaken a detailed program of environmental water requirements assessments and associated river modelling, and reviewed the likely social and economic implications associated with various SDLs.

MDBA has prepared and published a number of reports that describe this work in more detail. This includes the following reports:

Water resource assessments for without-development and baseline conditions – Murray-Darling Basin Authority technical report 2010/20 Version 2.
This report provides a summary of the hydrologic modelling assessment of the without development and baseline conditions in each of the surface water river valleys in the Basin.

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The proposed "environmentally sustainable level of take" for surface water of the Murray–Darling Basin: Method and Outcomes – November 2011.
This report provides an overview of the work in its entirety, including decision making processes, key assumptions and uncertainties, and anticipated environmental outcomes at a regional and basin level.

Assessment of environmental water requirements for the proposed Basin Plan
These 24 reports describe the detailed assessment of environmental water requirements at hydrologic indicator sites located throughout the Basin. The reports set out the flows required to achieve environmental objectives and ecological targets, which form a key input to modelling.

Hydrologic modelling to inform the proposed Basin Plan: Methods and results – February 2012
This report describes the technical detail of the modelling process, including methods, assumptions and results at a regional and environmental asset level.

The proposed Groundwater Baseline and Sustainable Diversion Limits: methods report
This report contains a summary of the methods and assessments used to determine the groundwater sustainable diversion limits for the proposed Basin Plan. As well as the sustainable diversion limits, the Authority has determined a baseline against which sustainable diversion limits are compared. Known as the baseline diversion limit, it represents the Authority's determination of the limits on groundwater use under existing water management arrangements. The proposed Basin Plan sustainable diversion limits and baseline diversion limits reflect the different aquifer characteristics, levels of management and knowledge of the groundwater resources across the Basin.

Groundwater Sustainable Diversion Limit Resource Unit Summary Report Cards
The Authority has prepared report cards for each individual groundwater SDL area. Each report card contains a summary of the technical information and data used during the development of the groundwater SDLs and BDLs for the proposed Basin Plan.

Socioeconomic Analysis and the Draft Basin Plan, Parts A and B
This report synthesises the extensive program of research commissioned by the MDBA, including 22 commissioned studies, into the social and economic implications of the draft Basin Plan.

These reports are all available on the MDBA website (http://www.mdba.gov.au/draft-basin-plan/) and I anticipate the reports will provide the information sought by the Committee.

While the reports noted above provide a comprehensive summary of the work undertaken by the MDBA, the basic approach to determining the SDLs can be summarised as a four step process:

1. Determining Basin-wide environmental objectives that reflect the requirements of the Act;

2. Determining environmental flows required to achieve these objectives, using a group of hydrological indicator sites at key locations across the Basin;
3. Modelling options for water recovery and environmental water use targeted at delivering these flow requirements; and
4. Assessing the model results to determine the effectiveness of the options in achieving objectives, and iterate as required until an option is found that achieves an appropriate balance in environmental, social and economic outcomes.

The overarching objective of the Basin Plan has been framed in the context of a 'healthy working basin' whereby the MDBA has sought to strike an appropriate balance between the water needs of communities, industries and the environment, while at the same time protecting and restoring the ecological and other values of water-dependent ecosystems so they remain healthy.

3. Were any other assumptions initially considered but set aside in determining the 2750GL/y figure?

Some of the key assumptions made in determining the proposed SDLs are identified below. These assumptions remain valid – that is, the MDBA has not set any of them aside in reaching its determination on the proposed SDLs.

- The environmental objectives, assessments and modelling assume existing water management infrastructure and operating rules remain in place (as recommended by the Windsor Inquiry, there may be opportunities to optimise river operations to achieve environmental outcomes more efficiently, and these will be considered in the proposed 2015 review);
- The environmental objectives seek to maintain the existing extent of river, floodplain and wetland habitats in a healthy, dynamic and resilient state. For most working rivers it is not practically possible, nor desirable from a social or economic perspective, to return them to a pristine or pre-development condition;
- In accordance with Commonwealth Government commitments, the modelling assumes water will be recovered from investment in infrastructure and buyback from willing sellers, and used in accordance with existing allocation arrangements;
- For the purposes of modelling, it has generally been assumed that an equal percentage of all licence types will be recovered from locations spatially throughout a region. Further, any requirement for connected valleys / tributaries to contribute to downstream water requirements in either the Barwon–Darling River or River Murray are shared across each connected system as set out in the reports referenced alone. This shared reduction in diversions is over and above those required to meet environmental targets within the valley; and
- The modelling is based on historical climate records between 1895 and 2009, with the impacts and response to potential future climate change being those that would currently occur under existing planning frameworks. This issue will be considered further in the 2015 review and required future reviews of the plan.

I trust that the above information is of assistance to the committee. The MDBA will be pleased to clarify any further specific issues if required.

Yours sincerely

Craig Knowles
Chair

19/04/2012