



# GVIA

Gwydir Valley Irrigators Association Inc.

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*making every drop count*

22 August 2019

Dr John Keniry, AM  
Commissioner  
Natural Resources Commission  
GPO Box 5341  
Sydney NSW 2001  
[nrc@nrc.nsw.gov.au](mailto:nrc@nrc.nsw.gov.au)

Sent via electronic mail

Dear Commissioner

**Re: GVIA submission on the draft report into the review of the *NSW Water Sharing Plan for the Barwon Darling Water Source (2012)***

## Introduction

The Gwydir Valley Irrigators Association (GVIA) Inc is writing to provide input into the Natural Resources Commission's draft report on their review in the *NSW Water Sharing Plan for the Barwon Darling Water Source (2012)* (the draft report) due to the linkages between the *Water Sharing Plan for the Gwydir Regulated River Water Source (2016)* and your review. We note that this is a supplementary submission to our belated submission provided on 4 June 2019 and have attached this original submission.

The GVIA represents more than 450 water entitlement holders in the Gwydir Valley, centred around the town of Moree in North-West New South Wales. Our mission is to build a secure future for our members, the environment and the Gwydir Valley community through irrigated agriculture.

We recognise that under s.43A of the *Water Management Act 2000*, the Commission is to provide advice to the Minister on:

- the extent that water sharing provisions have contributed to environmental, social and economic outcomes
- whether changes to those provisions are warranted.

The NRC therefore has a statutory responsibility to provide advice to the Minister, it is therefore an expectation that this advice is well researched, evidenced-based and addressing all aspects of decision making, or at least those listed in the Act being

'environmental, social and economic outcomes'. We had also anticipated that this review to have used the NRC standards and objectives in a clear and identified framework as previously utilised. This report has not addressed this requirement of the to consider alignment of water and NRM planning to improve overall landscape health, productivity and resilience. There is also an expectation that genuine consultation is undertaken, to help inform the NRC of key issues and provide feedback on their recommendations.

The draft report, fails to meet these expectations and the current approach by the NRC is a dangerous precedent, to think that Governments can use the NRC for political purposes but then the NRC, utilises their own reputation and authority to provide widely unsubstantiated claims to detract away from informed debate.

We raised this issue in our previous submission to the NRC for the Barwon-Darling WSP review (which was not made public), saying:

*"...we are acutely aware in our own region whereby suggested amendments to recent water sharing plans that are within their 10-year lifespan have been not considered by government to allow these plans to run their full course before changes. The NSW Government in its development of Water Resource Plans to be compliant with the Murray Daring Basin plan (2012) have stated "The objective when proposing amendments has been to undertake minimal changes"<sup>1</sup>....*

*Hence, we are therefore perplexed by the decision to review this plan [Barwon-Darling] at this current point in time when the outcomes of the review maybe deemed redundant even before they are public, depending on the timeframes for public consultation on the Water Resource Plan for the Barwon Darling Water Source.*

*The precedent for a Minister to use an independent commission in a political manner is not welcomed by the GVIA, it creates additional resources from all stakeholders for minimal benefit now. Supporting the current process through Water Resource Planning and Stakeholder Advisory Panels together with broad and targeted public consultation approaches, is the preferred approach to provide consistency across NSW planning arrangements."<sup>14</sup>*

We have serious concerns on the legitimacy of the NRC to seek genuine feedback on the draft report as well, considering; the timeline was incredibly short for a complex, repetitive and poorly written 181 page document and not all supporting information was available. We appreciate that on this occasion the NRC has sort expert opinion to help inform their review, considering the criticisms of previous data availability and processes of NSW Government is welcomed. However, the fact that the draft report refers multiple

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<sup>1</sup> [https://www.industry.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0009/178767/Gwydir-surface-changes-unregulated-wsp-fact-sheet.pdf](https://www.industry.nsw.gov.au/__data/assets/pdf_file/0009/178767/Gwydir-surface-changes-unregulated-wsp-fact-sheet.pdf)

times, to expert opinion, being information included in the “Sheldon report”<sup>2</sup> released publicly only on 19 August 2019 (the previous submission due date) and another discussion paper linking planning objectives<sup>3</sup>, which is not yet publicly available. How can we have confidence that the NRC has appropriately represented this expert opinion when we cannot interrogate the evidence?

Due to a lack of evidence to assess the technical rigour of the draft report and the emotive nature of the high-level claims, the GVIA together, with other northern NSW irrigator groups will provide a specific submission on the technical issues separately.

We have therefore focused this submission on demonstrating our key issues with the NRC approach, using one of the draft recommendations presented in the draft report.

### Assessment of the recommendation to improve connectivity across the Northern Basin and implement or amend the Interim North-West Unregulated Flow Plan

The GVIA has focused this submission on one key recommendation for the Department of Property, Industry and Environment (DPIE) to:

*“improve connectivity across the Northern Basin and implement or amend the Interim North-West Unregulated Flow Plan”<sup>4</sup>*

This recommendation appears largely based on the draft report’s suggestion on a number of occasions, that upstream extractions (assumedly but not defined as anything upstream of Bourke, possibly as far as Moree) has:

*“pushed the river below Bourke into hydrological drought” due to “[Priorisation] of upstream water users, resulting in impacts increasing further downstream”<sup>5</sup>*

Our collective submission from the northern NSW irrigator groups will address the particularly concerns with this statement being predominately a lack of data to quantify such a statement. But the continued use both within the report and by the media, should be a warning to the NRC to be diligent in their language and to ensure that any such emotive statements can be thoroughly supported.

We were perplexed nonetheless at recommendation and statement about the hydrological drought, considering:

- The previous reviews by the NRC on upstream Water Sharing Plans;

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<sup>2</sup> Sheldon (2019) Technical Review of the water sharing plan for the Barwon-Darling unregulated and alluvial water sources in 2012

<sup>3</sup> Mallen-Cooper, M. (2019). Barwon-Darling Water Sharing Plan: opportunities to link ecology, river hydraulics, culture, and social values to meet the objectives of the water management act. Discussion paper for the NRC

<sup>4</sup> Page 12: NRC, Review of 2004 Water Sharing Plans, January 2013

<sup>5</sup> Page 3 and 4: NRC, Review of 2004 Water Sharing Plans, January 2013

- There was no detailed scenario analysis of implementing the North West Unregulated Flow Plan;
- There was no discussion regarding contemporary water management under a fully implemented Basin Plan; and
- Lack of evidence to have considered the impact of drought or the unregulated nature of the Barwon-Darling. For example, the Vertessey Report clearly identified that there were a number of drivers for declines in stream inflows, extractions are only one of those reasons. But that unregulated water users and towns that are reliant on unregulated, flows must capitalise of these flows when they occur.

#### Previous NRC Reviews

The NRC had undertaken in our valley and many others, contributing to the Barwon Darling. For example, a review of the then *Water Sharing Plan for the Gwydir Regulated River Water Source (2004)* finalised in the report “*Review of 2004 Water Sharing Plans*”<sup>6</sup> whereby the key recommendations was to extend this water sharing plan and that

*“The NRC found that it is likely the plans have contributed to the state-wide targets by:*

- *providing certainty around water allocations, entitlements and extraction levels*
- *supporting trade to encourage economically efficient water use*
- *setting aside water for the environment and working towards more natural flow patterns*
- *making progress in the recognition of Aboriginal cultural water values.*

*However, the NRC’s capacity to assess the extent or materiality of this contribution has been limited by a lack of available information on the outcomes of these plans.”*<sup>7</sup>

The report in the later section of the region summaries outlined the specific contributions being:

*“protecting low flows...establishing extraction limits in the Gwydir River so that approximately 56% of yearly flows (based on long-term average) are preserved for maintaining environmental health...releasing environmental flows ...establishing minimum daily flow rules”*<sup>8</sup>

Given the NRC’s previous reviews of each of the major surface water plans in our region and our plan contributing to environmental outcomes outlined above and that these include provisions to provide connectivity downstream<sup>9</sup> and that the planned aligned well

<sup>6</sup> NRC, Review of 2004 Water Sharing Plans, January 2013

<sup>7</sup> Page 1: NRC, Review of 2004 Water Sharing Plans, January 2013

<sup>8</sup> Page 4, Attachment 1: NRC, Review of 2004 Water Sharing Plans, January 2013

<sup>9</sup> All supplementary events are shared 50:50 with users and the environment and these can provide for additional connectivity flows

with catchment planning, we were surprised that they recommend that *Interim Unregulated Flow Management Plan* should be updated in reviewed. This rule was part of these earlier WSP reviews and the issues around the rules were raised by our organisation and others, throughout the WSP review process and the subsequent water resource plan development process, but the NRC did not raise it as an issue at the time. These rules and their implementation or not, is not a 'new' issue and to be included now, raises questions about the capability of the NRC in undertaking its statutory responsibilities now and previously.

#### Analysis of the North-West Unregulated Flow Plan

The *Water Sharing Plan for the Gwydir Regulated River Water Source (2016)* has additional restrictions on supplementary flows on effluent streams (off the main Gwydir River) to meet flow requirements in the Barwon Darling system.

These restrictions are a requirement of the Interim Unregulated Flow Management Plan for the North West (North West Flow Plan) and can be categorised as being for:

- a) Fish Passage
- b) Algal bloom suppression
- c) Basic landholder rights

These seasonal restrictions are above water sharing rules that provide 500ML/day flows towards the Gwydir wetlands and 50:50 sharing arrangements between water users and the environment that already provide for connectivity between water sources.

The recommendation did not provide any evidence regarding an assessment of what benefits implementing either the existing or amended North West Unregulated Flow Plan may bring. The GVIA suspect that no analysis was undertaken, as the answer would not provide the NRC with the evidence to continue to pursue such a recommendation.

The reasons being:

- The flow plan provides rules to restricts unregulated flows in specific rivers or creeks in upstream catchments, these must have natural unregulated flows and this has not occurred.
- Wide-spread supplementary access was last triggered in 2016-17 in the Gwydir Valley with small isolated supplementary events at the start of 2017-18 year that was generated in the Gwydir River and were distributed according to the sharing roster. Otherwise there has not been significant enough unregulated events above the base flow requirements for the wetlands generated in our region.
- Relying on unregulated flows upstream is an unreliable, inefficient solution for critical water needs. Alternative planning arrangements should be made.
- There are natural flow constraints that limited the efficient delivery of water to connected catchment, particularly in the Gwydir where there is limited stream connectivity out of the catchment.
- The flow plan rules are likely to be superseded through active management of environmental water once implementation of the Basin Plan is completed. This is evident by the fact it has been held environmental water in the Gwydir Valley

(and Macintyre Valley) that has provided the most recent flows in the Barwon-Darling.

#### Contemporary Water Management

While suggesting improving connectivity sounds like an encouraging solution to the drought crisis and that one way to achieve this would be to implement the Interim North West Unregulated Flow Plan rules they only work when its raining and there are flows. Currently there are not any. The issue is perception about outcomes and what the Basin Plan and water Sharing Plan is designed to provide<sup>10</sup>. Northern upstream catchment cannot provide connectivity when indeed our own systems, are ceasing to flow.

As we wrote in our earlier submission:

*“The Gwydir Valley is a large inland delta that expands in a westerly direction from the Newell Highway, with most flows from the Gwydir River historically flowing towards the Gwydir Wetlands. The water sharing plan rules were constructed to support these natural patterns and prioritise delivery of planned environmental water to the core wetlands areas. These factors result in the Gwydir being a relatively small contributor to the overall flows of downstream catchments. Gwydir modelled contributions to inflows into Barwon-Darling at 7%<sup>18</sup>.*

*Analysis of historical to current contributions downstream, highlight that we contribute more now that we did prior to irrigation development with approximately 12% contribution more recently<sup>18</sup>. Interesting it was the expansion in environmental water that has provided additional opportunity to further increase downstream contributions, through the management of held environmental water which has now been used in 2018 and 2019 to deliver downstream flow in periods of no-natural flows.*

*The use of held environmental water by Commonwealth and NSW environmental water manages, is why the GVIA questioned the need to maintain restrictions to unregulated flow access on the effluent systems, known as the interim North West Flow Plan<sup>11</sup> in our review of the Water Sharing Plan for the Gwydir Regulated River Water Source (2004, 2016) and Gwydir Surface Water Resource Plan. It is these rules only which link the Gwydir Valley to the Water Sharing Plan for the Barwon Darling Water Source (2012). The rules have been in existence, as interim objectives since the 1992 and as outlined in the Independent*

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<sup>10</sup> See [https://www.moreechampion.com.au/story/5921709/fish-kill-reports-highlight-lack-of-understanding-of-basin-plan-gvia/?cs=1483&fbclid=IwAR33nIW4j\\_mvjf6r9R3UTjShrI6SPJ6KN906sarbflvxi\\_cQ49WPUEJVgcE](https://www.moreechampion.com.au/story/5921709/fish-kill-reports-highlight-lack-of-understanding-of-basin-plan-gvia/?cs=1483&fbclid=IwAR33nIW4j_mvjf6r9R3UTjShrI6SPJ6KN906sarbflvxi_cQ49WPUEJVgcE) and [https://www.moreechampion.com.au/story/6079005/gwydir-valley-irrigators-welcome-environmental-flows-video/?cs=1483&fbclid=IwAR37P6jDYGJGDxD\\_14ISG9T7-Kilc-50UsV4hi4Gv4\\_2N3In8hx5k0waS0](https://www.moreechampion.com.au/story/6079005/gwydir-valley-irrigators-welcome-environmental-flows-video/?cs=1483&fbclid=IwAR37P6jDYGJGDxD_14ISG9T7-Kilc-50UsV4hi4Gv4_2N3In8hx5k0waS0)

<sup>11</sup> Part 9 Division 3 Clause 47 (9) *Water Sharing Plan for the Gwydir Regulated River Water Source* (2016)

*Assessment of the 2018-19 Menindee Fish Deaths report, the rules have been applied inconsistently over this period<sup>12</sup>.*

*These rules appear superfluous in the current management of the northern basin which is maturing towards full implementation of the Murray Darling Basin Plan (2012). This is important considering there is active management of environmental water as well as new rules within the proposed Water Sharing Plan for the Gwydir Regulated River Water Source (2019) to allow for further direction on the use of planned environmental water including unregulated flows<sup>13</sup>.*

*Furthermore, as the Murray Darling Basin Authority (MDBA) has updated hydrological modelling Northern Basin as a requirement for setting the Basin Plan. This modelling indicates that there will be increased flows within the Barwon-Darling and into the Menindee Lakes Storage as a result on the implementation of sustainable diversion limits. With this in mind, the GVIA recommend that the NSW Government updates their own modelling and re-test the rules and requirements for the Interim Unregulated Flow Management Plan for the North West<sup>21</sup>.*

*The GVIA would like the NSW Government to investigate the effectiveness of enacting the embargoes required to meet the requirements of these rules, as past resections on Gwydir River effluent streams (Mehi and Carole Creek) for this purpose, provided little benefit to the desired targets, whereas actively managing held water can provide greater opportunity to provide enhanced benefits.*

*We recommend the reconsideration of the Interim Unregulated Flow Management Plan for the North West<sup>21</sup> rules and a movement away from rules-based environmental triggers, towards greater active management as a means to remain adaptive with improved information and learnings.”<sup>14</sup>*

The fact the NRC appears to have ignored the contemporary water management arrangements possible through water recovery for the Basin Plan is another significant shortfall of the draft report. Any analysis suggesting targets not achieved must be assessed in the context of water recovered for the Basin Plan and this has not occurred.

## Conclusion and Recommendations

The NRC must decide in finalising their review, whether it is going to be genuine in their approach and addressing the shortcomings in the draft report or continue to maintain their current approach of presenting a substandard review that lacks rigour and

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<sup>12</sup> Page 21 [https://www.mdba.gov.au/sites/default/files/pubs/Final-Report-Independent-Panel-fish-deaths-lower%20Darling\\_4.pdf](https://www.mdba.gov.au/sites/default/files/pubs/Final-Report-Independent-Panel-fish-deaths-lower%20Darling_4.pdf)

<sup>13</sup> [https://www.industry.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0010/178768/Gwydir-surface-changes-regulated-wsp-fact-sheet.pdf](https://www.industry.nsw.gov.au/__data/assets/pdf_file/0010/178768/Gwydir-surface-changes-regulated-wsp-fact-sheet.pdf)

<sup>14</sup> GVIA, *Submission to the NRC on the review into the Water Sharing Plan for the Barwon Darling Unregulated and Alluvial Water Source (2012)*, 2019

evidence. To present a report of this nature, in this current drought-crisis where communities everywhere are in stress, is negligent of the NRC as it has added to the emotional stress for many, by trying to target community versus community; upstream versus downstream. Many of these communities are also reform-fatigued, yet this draft report recommends more, whilst barely recognises the plethora of reforms and processes underway throughout NSW to implement many of these through WRP development. We expect more of our government bodies.

We recommend the NRC re-write the draft report, clearly outlining evidence to support the recommendations and any uncertainty, and reconsider at a minimum, removing the recommendations that are to achieve existing work programs.

We recommend that a key consideration for the NRC is to highlight the pre-mature nature of this review in light of this existing work program and the implementation of the Basin Plan. To highlight how in fact, many of the issues identified in this review maybe redundant following completion of those reforms, which are imminent with the current Basin Plan timeframes. We suggest that the review on connectivity and implementation of the North-West Unregulated Flow Plan falls into this category of recommendations and should be removed (Recommendation 13 and task E for DPIE Water). Other recommendations include, 4, 5, 8, 9 and 12.

We recommend that the NRC should focus on any new ideas but only those that they have evidence to support, which is publicly available and that can be assessed in terms of the NRC statutory responsibilities being; environmental, social and economic for all benefits and impacts.

We do not support recommendations that seek to overtly apply Commonwealth legislation to the NSW planning framework and therefore reject recommendations that seek to amend the water rights through rule changes and avoidance of compensatory provisions as outlined in DPIE Water Task L, this exposes Government to significant risk and is dangerous a precedent for all water sharing plans and water user around NSW.

Please do not hesitate to contact myself for further information.

Kind regards



Zara Lowien  
Executive Officer  
Gwydir Valley Irrigators Association Inc

Attachment 1:  
GVIA Submission to the NRC on the Barwon-Darling Water Sharing Plan, dated 4 June 2019.





# GVIA

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Commissioner  
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Dear Commissioner

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The GVIA represents more than 450 water entitlement holders in the Gwydir Valley, centred around the town of Moree in North-West New South Wales. Our mission is to build a secure future for our members, the environment and the Gwydir Valley community through irrigated agriculture.

We recognise that under s.43A of the *Water Management Act 2000*, the Commission is to provide advice to the Minister on:

- the extent that water sharing provisions have contributed to environmental, social and economic outcomes
- whether changes to those provisions are warranted.

However, we are acutely aware in our own region whereby suggested amendments to recent water sharing plans that are within their 10-year lifespan have been not considered by government to allow these plans to run their full course before changes. The NSW Government in its development of Water Resource Plans to be compliant with

the Murray Darling Basin plan (2012) have stated “The objective when proposing amendments has been to undertake minimal changes”<sup>15</sup>.

Having said that the GVIA are also aware that during this process, the NSW Government have proposed changes to the *Water Sharing Plan for the Barwon Darling Water Source (2012)* and our region is about to engage out of session, to undertake consultation on the *Water Sharing Plan for the Gwydir Unregulated and Alluvial Water Sources (2012) despite public consultation closes*, with changes clearly not yet be finalised.

Hence, we are therefore perplexed by the decision to review this plan at this current point in time when the outcomes of the review maybe deemed redundant even before they are public, depending on the timeframes for public consultation on the Water Resource Plan for the Barwon Darling Water Source.

The precedent for a Minister to use an independent commission in a political manner is not welcomed by the GVIA, it creates additional resources from all stakeholders for minimal benefit now. Supporting the current process through Water Resource Planning and Stakeholder Advisory Panels together with broad and targeted public consultation approaches, is the preferred approach to provide consistency across NSW planning arrangements.

However, we consider it appropriate that background around connectivity of upstream regulated and unregulated systems, like the Gwydir Valley are presented as part of this review. Our submission therefore addresses the following key aspects only:

- Gwydir Valley Irrigation and Environmental Water
- Gwydir Valley Hydrology
- Connectivity
- Floodplain Harvesting

### The Gwydir Valley Irrigation and Environmental

The Gwydir is characterised as having low water reliability with most water held as general security water with a reliability of 36% (that means irrigators could expect in the long-term just over a third of their entitlement can be accessed). Supplementary water entitlement is somewhat more reliable with 55% but accounts for less than a quarter of the total volume. Groundwater reliability is considered 100% but there is less than 30,000ML available having been reduced by 55% under the Achieving Sustainable Groundwater Entitlements (ASGE) program.

The total volume of water available to be accessed by irrigators has been reduced significantly over time due to reforms and directly outlined below in Table 1: Summary of Water Reform. Entitlements owned for environmental purposes totals more than

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<sup>15</sup> [https://www.industry.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0009/178767/Gwydir-surface-changes-unregulated-wsp-fact-sheet.pdf](https://www.industry.nsw.gov.au/__data/assets/pdf_file/0009/178767/Gwydir-surface-changes-unregulated-wsp-fact-sheet.pdf)

186,000ML, which includes an Environmental Contingency Allowance of 45,000ML. The NSW and Commonwealth environmental water managers are now responsible for:

- 28.5% of high security entitlement;
- 29% of general security entitlement; and
- 13% of supplementary entitlement for environmental use.

**Table 1: Summary of Water Reform**

Year	Program	Volume of entitlement
1970	Creation of replenishment flow	5,000ML
1995	Murray-Darling Basin 1993/94 Interim Cap established to limit future growth in access	
1996	Voluntarily reduced their general security reliability by 5%, by establishing the original Gwydir Valley Environmental Contingency Allowance (ECA) of general security equivalent water.	25,000ML General Security
2004	Gwydir Regulated River Water Sharing Plan further reduced reliability by 4%, primarily through increasing the ECA and enhancing its use and storage provision. Rules created for the WSP also reduced access, particularly to supplementary flow previously known as high flow.	20,000ML General Security
2006	Lower Gwydir Groundwater Source Water Sharing Plan reduced groundwater entitlements from 68,000 megalitres to 28,700 megalitres.	39,300ML Groundwater
2008 +	NSW State Government has purchased general security entitlement as well as supplementary for wetlands recovery programme.	17,092ML General Security 3,141ML Supplementary
	NSW Government infrastructure works	1,249ML High Security
	Commonwealth buy-back program.	88,133ML General Security 20,451ML Supplementary
2016	Commonwealth infrastructure programs.	4,508ML High Security 1,392ML General Security
<b>TOTALS</b>		5,757 High Security

Year	Program	Volume of entitlement
		156,617ML General Security (including ECA)
		23,592 ML Supplementary

Environmental water in the Gwydir is primarily used to contribute waterbird and fish breeding events and to maintain the condition and extent of the internationally recognised Gwydir Wetlands; as the portfolio has grown, so has the application and use of environmental water, as seen by the 2018 Northern Connectivity Event<sup>16</sup> and again currently.

### Gwydir Valley Hydrology

The Gwydir Catchment, as with many of our floodplain rivers often cease to flow naturally. They are ephemeral and episodic. Except for major flood events, most of these flows historically terminated in a mosaic of wetlands within the alluvial floodplain.

The Gwydir Valley is estimated at having system flows of 1,141 gigalitres per year on average and out current inflows total 208 gigalitres as of April 2019<sup>17</sup> and match our drought on record. The water sharing plan rules were constructed to support these natural patterns and prioritise delivery of planned environmental water to the core wetlands areas. These factors result in the Gwydir being a relatively small contributor to the overall flows of downstream catchments. Gwydir modelled contributions to inflows into Barwon-Darling at 7% from the Independent assessment of the 2018-2019 fish deaths in the Lower Darling, interim report<sup>18</sup>.

Analysis of historical to current contributions downstream, highlight that we contribute more now that we did prior to irrigation development with approximately 12% contribution more recently from the Independent assessment of the 2018-2019 fish deaths in the Lower Darling, interim report<sup>18</sup>.

The whole northern basin under natural conditions is estimated to provide 17%<sup>19</sup> of the long-term average flows in the Murray to South Australia. However, this long-term number is highly variable and is impacted by losses and evaporation and management at Menindee Lakes as reported in the Living Murray Information Paper No. 10<sup>20</sup>, it is explained that the reduction in flows is due to a combination of factors including increased evaporation in the Lakes, regulating weirs and stock and domestic structure

<sup>16</sup> <http://www.environment.gov.au/system/files/resources/468dd86a-83d0-433a-999a-2f9349391695/files/northern-connectivity-update-8.pdf>

<sup>17</sup> [https://www.waternsw.com.au/\\_\\_data/assets/pdf\\_file/0010/140140/Gwydir\\_Drought-Overview.pdf](https://www.waternsw.com.au/__data/assets/pdf_file/0010/140140/Gwydir_Drought-Overview.pdf)

<sup>18</sup> Page 50 [https://www.mdba.gov.au/sites/default/files/pubs/Final-Report-Independent-Panel-fish-deaths-lower%20Darling\\_4.pdf](https://www.mdba.gov.au/sites/default/files/pubs/Final-Report-Independent-Panel-fish-deaths-lower%20Darling_4.pdf)

<sup>19</sup> Pers comms with NSW Water modelling team

<sup>20</sup> [https://www.mdba.gov.au/sites/default/files/archived/mdbc-tlmreports/525\\_menindeelakesdarling.pdf](https://www.mdba.gov.au/sites/default/files/archived/mdbc-tlmreports/525_menindeelakesdarling.pdf)

as well as water harvesting (surface and floodwater access) across the upper and lower Darling Rivers.

### Connectivity

The Gwydir Valley is a large inland delta that expands in a westerly direction from the Newell Highway, with most flows from the Gwydir River historically flowing towards the Gwydir Wetlands. The water sharing plan rules were constructed to support these natural patterns and prioritise delivery of planned environmental water to the core wetlands areas. These factors result in the Gwydir being a relatively small contributor to the overall flows of downstream catchments. Gwydir modelled contributions to inflows into Barwon-Darling at 7%<sup>18</sup>.

Analysis of historical to current contributions downstream, highlight that we contribute more now than we did prior to irrigation development with approximately 12% contribution more recently<sup>18</sup>. Interesting it was the expansion in environmental water that has provided additional opportunity to further increase downstream contributions, through the management of held environmental water which has now been used in 2018 and 2019 to deliver downstream flow in periods of no-natural flows.

The use of held environmental water by Commonwealth and NSW environmental water managers, is why the GVIA questioned the need to maintain restrictions to unregulated flow access on the effluent systems, known as the interim North West Flow Plan<sup>21</sup> in our review of the *Water Sharing Plan for the Gwydir Regulated River Water Source (2004, 2016)* and Gwydir Surface Water Resource Plan. It is these rules only which link the Gwydir Valley to the *Water Sharing Plan for the Barwon Darling Water Source (2012)*. The rules have been in existence, as interim objectives since the 1992 and as outlined in the Independent Assessment of the 2018-19 Menindee Fish Deaths report, the rules have been applied inconsistently over this period<sup>22</sup>.

These rules appear superfluous in the current management of the northern basin which is maturing towards full implementation of the *Murray Darling Basin Plan (2012)*. This is important considering there is active management of environmental water as well as new rules within the *proposed Water Sharing Plan for the Gwydir Regulated River Water Source (2019)* to allow for further direction on the use of planned environmental water including unregulated flows<sup>23</sup>.

Furthermore, as the Murray Darling Basin Authority (MDBA) has updated hydrological modelling Northern Basin as a requirement for setting the Basin Plan. This modelling indicates that there will be increased flows within the Barwon-Darling and into the Menindee Lakes Storage as a result on the implementation of sustainable diversion limits. With this in mind, the GVIA recommend that the NSW Government updates their

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<sup>21</sup> Part 9 Division 3 Clause 47 (9) *Water Sharing Plan for the Gwydir Regulated River Water Source (2016)*

<sup>22</sup> Page 21 [https://www.mdba.gov.au/sites/default/files/pubs/Final-Report-Independent-Panel-fish-deaths-lower%20Darling\\_4.pdf](https://www.mdba.gov.au/sites/default/files/pubs/Final-Report-Independent-Panel-fish-deaths-lower%20Darling_4.pdf)

<sup>23</sup> [https://www.industry.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0010/178768/Gwydir-surface-changes-regulated-wsp-fact-sheet.pdf](https://www.industry.nsw.gov.au/__data/assets/pdf_file/0010/178768/Gwydir-surface-changes-regulated-wsp-fact-sheet.pdf)

own modelling and re-test the rules and requirements for the Interim Unregulated Flow Management Plan for the North West<sup>21</sup>.

The GVIA would like the NSW Government to investigate the effectiveness of enacting the embargoes required to meet the requirements of these rules, as past resections on Gwydir River effluent streams (Mehi and Carole Creek) for this purpose, provided little benefit to the desired targets, whereas actively managing held water can provide greater opportunity to provide enhanced benefits.

We recommend the reconsideration of the Interim Unregulated Flow Management Plan for the North West<sup>21</sup> rules and a movement away from rules-based environmental triggers, towards greater active management as a means to remain adaptive with improved information and learnings.

### Floodplain harvesting

The Gwydir Valley is the 'pilot' region for the NSW Healthy Floodplains Project and as a result our valley is more advanced in terms of modelling upgrades and outcomes, and engagement to-date than the other targeted northern catchments. Due to hydrology, topography and a lack of regulating capacity downstream of Copeton Dam, the Gwydir Valley is likely to be the most developed valley in NSW for floodplain harvesting, hence it was prioritised for implementation.

The GVIA has been actively working with members and the NSW Government to implement the program as a means to align this form of take with other entitlements in the NSW water management framework. The requirement to establish volumetric licences for floodplain harvesting does not create new water. Currently floodplain harvesting is controlled through work approvals process under Part 2 and Part 8 of the *NSW Water Act 1912*. This process provides regulation of floodplain protection structures. NSW Murray Darling Basin cap reporting requirements estimate valley-wide interception through valley-scale models.

This is legitimate historical access being bought into the current regulatory framework of the *NSW Water Management Act 2000* and with all water available to irrigators limited, future licensing of floodplain flows must recognise these limits set out in water sharing plans and the Basin Plan.

Floodplain or overland flow occurs water spills out from rivers or stream and flows across a landscape, the floodplain. Floodplain access varies in terms of frequency and duration depending on the farm location on the floodplain. While some localised flows may occur, the majority of floodplain take occurs when there is significant water availability and water flowing out of major rivers and streams. For example, the last basin scale event was in 2011 and 2012 with in the lead up to and during the large-scale flood events, there has been no or very little floodplain events since. During this event, upstream catchments in the northern basin made up 50% of the flows at Bourke for the same period with terminal wetlands of the Macquarie and Gwydir completely inundated and Menindee Lakes were surcharged, as the volume peaked well above full supply level.

While the issuing of licences for historical forms of take is not without its challenges, as irrigators will be subjected to further regulation and costs, it will include the following benefits:

- Licensing will protect the environment and users from further growth, providing certainty to communities who rely on floodplain flows
- Restricting future growth will maintain and improve floodplain flows downstream, including any environmental assets.
- Regulation of access will be via a new three-fold compliance approach rather than the two options available today.
- Communities should have confidence that not only water volumes but floodplain works will be monitored, with all farms on the floodplain (not only irrigation farms) will have their works inspected to ensure they are compliant to current regulations.
- Builds a framework to enable more informed supplementary discussions around sustainable levels of take and enhancing environmental outcomes in key areas.

We appreciate that the timeliness of this submission may not be such that it can be thoroughly considered. However, we thought it appropriate that background information on the connectivity of upstream regulated and unregulated systems, like the Gwydir Valley are presented as part of this review in addition to information regarding floodplain harvesting.

Please do not hesitate to contact myself for further information.

Kind regards



Zara Lowien  
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Gwydir Valley Irrigators Association Inc