

Gwydir Valley Irrigators Association Inc.

458 Frome St, PO Box 1451, Moree NSW 2400

Submission to Independent Expert Panel on 2014 Statutory Review of the Water Act 2007 (Cth)

Gwydir Valley Irrigators Association Inc
July 2014

Gwydir Valley Irrigators Association Inc
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1 Purpose of this submission

This document has been developed by the Gwydir Valley Irrigators Association (GVIA) on behalf of its members as a formal submission to the Independent Expert Panel for consideration as part of the 2014 Statutory Review on the Water Act 2007 (Cth).

This document represents the concerns and views of GVIA's members. However, each member reserves the right to express their own opinion and is entitled to make their own submission.

This document has also been provided as written support for the NSW Irrigators Council and National Irrigators Council submissions on the topic.

2 Terms of Reference

- 1) A review of the *Water Act 2007* (the Act) will be carried out in 2014 in accordance with section 253 of the Act, which specifies the following mandatory terms of reference:
 - a) having regard to the extent to which water resource plans are in transition, the review will conduct an assessment of the extent to which:
 - i) the management objectives and outcomes of the Basin Plan are being met; and
 - (ii) long-term average sustainable diversion limits are being met; and
 - (iii) targets in the Basin Plan are being met; and
 - (iv) water trading is occurring effectively and efficiently; and
 - (v) other key elements of the Basin Plan are being implemented;
 - (b) an assessment of:
 - (i) the level of Basin-wide consistency in water charging regimes; and
 - (ii) the contribution made by those charging regimes to achieving the Basin water charging objectives;
 - (c) an assessment of the extent to which water is being used in higher value uses;

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- (d) an assessment of the progress in the implementation of improved water information systems, including the National Water Account.
- 2) In addition, the review will examine and report on:
 - a) the effectiveness of the Act in achieving its objects, as set out in section 3 of the Act; and
 - b) opportunities to reduce or simplify the regulatory and/or reporting burden while maintaining effective standards.
- 3) The review will also recommend appropriate future review points for the Act and Basin Plan, noting the 2019 implementation date of the Basin Plan.
- 4) The review will be undertaken in consultation with state and territory governments and stakeholders.

3 About the Association

3.1 Where we are and what we do

The Gwydir Valley Irrigators Association (GVIA) represents in excess of 250 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 its members, the environment and the Gwydir Valley community through irrigated agriculture.

Our members hold entitlements within the Gwydir regulated and un-regulated surface water areas, in addition to groundwater resources. All of which are managed through water sharing plans with two of these plans under scrutiny as part of this submission.

The main broadacre irrigated crop is cotton with irrigated wheat, barley and Lucerne also occurring depending on commodity prices. Currently there are also pecans, walnuts, oranges and olives being grown within the region covering approximately 1,500 hectares. There is however, significant and potential for expansion into horticulture.

The Gwydir Valley Irrigators Association organisation is voluntary, funded by a cents/megalitre levy on regulated, unregulated and groundwater irrigation entitlement. In 2010/11 the levy was paid on in excess of 87% of the eligible entitlement (excludes entitlement held by the State and Federal Government).

The Association is managed by a committee of 11 irrigators and employs a full-time executive officer and a part-time administrative assistant, as well as hosting a Regional Landcare Co-ordinator.

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Much of the activity the association revolves around negotiating with government at a Federal, State and Local level to ensure the rights of irrigators are maintained and respected.

While the core activities of the Association are funded entirely through a voluntary levy, the Association does from time to time, undertakes special projects, which can be funded by government.

The GVIA and its members are members of both the National Irrigators Council and the NSW Irrigators Council.

3.2 Association Contacts

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4 Introduction

The Gwydir Valley Irrigators' Association (GVIA) welcomes the opportunity to provide a submission on the 2014 Statutory Review of the Water Act 2007 (Cth). We have provided comments on the terms of reference and other issues that are of direct interest to our members and our community, which relies on our industry.

The GVIA like others, feel that the review is premature in its timing due to the delayed implementation of the Murray Darling Basin Plan (the "Basin Plan"). This fact undermines

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the effectiveness of the review at being able to address many of the Terms of Reference and we recommend consideration be given to a review occurring following the implementation of the Basin Plan in 2019.

As the Water Act made the legislative provision for the development of the Basin Plan, we cannot comment on the Water Act without addressing the outstanding issues we have with the Basin Plan. In fact, in preparing for this submission we had difficulty in determining if these issues are because of the Water Act itself, or the Murray Darling Basin Authorities (MDBA) interpretation and implementation of the Act in developing the Basin Plan. In providing this submission, we are asking the expert panel to investigate this issue as a means of clarifying the issue.

Due to technical flaws and a lack of consideration of socio-economic impacts, the GVIA cannot accept the Basin Plan as a plan to deliver a healthy working basin. The latter factor, we believe as being attributed directly to the Water Act and its inability to clearly outline objectives to achieve a triple bottom line outcome.

The GVIA do not accept that any more water above the current water sharing plan arrangements outlined within the Gwydir's major Water Sharing Plan¹ is required for the environment as justified setting of new Sustainable Diversion Limits in the Basin Plan. Not only is the water sharing plan more than adequate, the methodology to determine water requirements in the Gwydir was flawed and is not considered by the GVIA as utilising the best available science². Not to mention to our knowledge there has been no consideration (or transparency around considerations) of the socio-economic impacts resulting from the Basin Plan in our region.

As the Basin Plan is focused on flow based requirements and water recovery rather than allowing a holistic approach to integrated catchment management and socio-economic outcomes, it will be fundamentally flawed and its effectiveness undermined by competing issues. All of which will limit the Plan's ability in achieving a healthy working basin.

The GVIA is focused on helping build a sustainable and secure future for our industry, the environment and the local community. As a result, we have provided five recommendations for consideration by the Expert Panel to amend the Water Act to result in better outcomes for all. We welcome further discussion on these matters with the Expert Panel and are available to provide clarification if needed.

¹ [Water Sharing Plan for the Gwydir Regulated River Water Source \(2004\)](#), which is also currently under review by the NSW Government.

² See the GVIA's submission on the draft Murray Darling Basin Plan (attached and referenced Section 8.1) and joint technical issues with other Northern NSW valleys for the Northern Basin Review as attached (referenced Section 8.2).

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5 Recommendations

The following represent a concise list of recommendations outlined within this submission.

1. The GVIA recommend the inclusion of socio-economic objectives in relevant Sections of the Water Act where environmental objectives exist, namely Section 6, Section 20, Section 22, Section 28 and Section 86AA.
2. The GVIA recommend that integrated catchment management principles are included in environmental objectives under the Water Act.
3. The GVIA recommend that Section 106 be removed in its entirety so that the CEWH has the ability to achieve environmental outcomes outlined within the Basin Plan through a variety of mechanisms.
4. The GVIA recommend that all relevant sections of the Water Act including Section 18H, Section 31, and Section 114 be amended so that the CEWH are delegated full responsibility for Commonwealth Environmental Water including the long-term and annual planning for it use.
5. The GVIA recommend a review of the roles and responsibilities of the agencies outlined within the Water Act to reduce duplication and allow for efficient policy implementation, including but not limited to:
 - a. Bureau of Meteorology;
 - b. Australian Bureau of Agricultural and Resource Economics and Science;
 - c. National Water Commission;
 - d. Australian Competition and Consumer Commission;
 - e. Commonwealth Environmental Water Holder; and
 - f. Murray Darling Basin Authority.

6 Specific Comments

6.1 Objects of the Water Act

The GVIA have long held concerns that there is ambiguity around the Water Act being able to deliver a triple bottom line approach to water policy as desired through the National Water Initiative. We note that the Water Act requires a consideration of the social, environmental and economic outcomes as a core Object of the Act in Section 3(c).

However, the overall emphasis of the Water Act remains with environmental targets and outcomes. This is evident when the various environmental targets (Section 6, Section 20, Section 22, Section 28 and Section 86AA) are assessed. Similar prescriptive targets for social and economic targets are not provided.

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The extent of reviews and subsequent reports³ and most prominently the changes around the theory of the Basin Plan⁴ are evidence that there remains ambiguity within the Water Act on the treatment of socio-economic considerations.

Regional communities, like Moree and the surrounding area, are highly dependent on agriculture with a strong sensitivity to changes in government policy to this sector. Coupled with a high degree of remoteness and a population that does not pass the 'critical mass' test, these regions are more at risk to change⁵. Analysis by for the Cotton Catchment Communities Cooperative Research Centre (CRC) socio-economic assessment program⁵, outlines these risks more clearly in relation to changes in water policy under the proposed Murray Darling Basin Plan. These works highlight the need for governments to consider socio-economic indicators as part of policy and legislation.

Hence, given the significant impact that the Water Act and the Basin Plan has had and will continue to have on Basin communities like Moree, we believe greater emphasis must be placed within the Water Act on social and economic targets.

The GVIA recommend the inclusion of socio-economic objectives in relevant Sections of the Water Act where environmental objectives exist, namely Section 6, Section 20, Section 22, Section 28 and Section 86AA.

Further to this the many of the environmental objectives of the Water Act have resulted in a focus on only hydrological outcomes and ignored broader natural resource management issues which will undermine the effectiveness of the Water Act and the subsequently developed Basin Plan at meeting its objectives. Water alone will not be able to deliver a healthy working Basin if non-hydrological issues are not adequately addressed.

It is now a reality that the "just add water" approach is engrained within the Basin Plan and its implementation, as the Commonwealth Environmental Water Office (CEWO) are unable to address non-hydrological issues like invasive species in key assets like the Gwydir Wetlands. Although the CEWO would be considered, the best positioned (at a Commonwealth level) to identify and understand the limitations of their watering actions, they are restricted in dealing with the problem as defined by the Water Act. Without a holistic approach with integrated catchment management, the effectiveness of environmental watering will be ultimately undermined.

³ For example, 2011 Senate Inquiry report; '[A Balancing Act: provisions of the Water Act 2007](#)', 2011 House of Representatives Inquiry report, '[Of Drought and Flooding Rains](#)'.

⁴ Methodology change from the [Guide to the Proposed Murray Darling Basin Plan](#) to the Murray Darling Basin Plan's [Environmentally Sustainable Level of Take](#).

⁵ Cotton Catchment Communities Co-operative Research Centre commissioned a series of socio-economic analysis on cotton communities in preparation for understanding the impacts that reducing water availability will have. See for full list of reports http://www.cottoncrc.org.au/communities/Cotton_Info/Socio-Economic_Reports

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The GVIA recommend that integrated catchment management principles are included in environmental objectives under the Water Act.

6.2 Water Trading and Markets

As the Basin Plan trading rules have only come into effect on 1 July 2014, the GVIA considers it premature to comment on the effectiveness of the Water Act in assisting with the development of water trading in the Murray-Darling Basin.

However, the GVIA do believe that the water market locally in the Gwydir Valley has developed considerably overtime, most significantly since the separation of land and water rights. An analysis of the water market in our region⁶ highlighted that more recently; the largest cumulative volume of water was traded in our region and a new peak price per megalitre was reached.

Indicating that the market has allowed for allocations to be easily transferred between users for the highest value purpose and price. However, it must be said that markets are only efficient at delivering on this outcome when there are multiple buyers and sellers and the market behaviour during the drought periods highlights this.

The GVIA cannot more strongly support a free market development principle, which we believe will continue to drive market development and maturity. We would be interested in seeing in-stream/real time trading as a new form of trading into the future.

However, we believe that the Water Act does constrain water market development by limiting management options of one significant entitlement holder, the Commonwealth Environmental Water Holder (CEWH). The rules limiting the disposal of allocation and entitlement are too restrictive to enable effective and efficient management of Commonwealth environmental water.

The Basin Plan in conjunction with the Water Recovery Strategy outlines that the CEWH will have the largest and most complex portfolio of water entitlements in Australia; with at least 2750 gigalitres of long-term average yield of entitlement across each of the 23 river valleys with various levels of security and reliability⁷. The CEWH have had no control over where this entitlement exists but are required to meet objectives of the Basin Plan regardless of entitlement type and location.

The GVIA believe that it is essential that the CEWH has the opportunity to manage this portfolio to best meet environmental outcomes and achieve their legislative requirements within the Basin Plan, Chapter 8. Currently, Section 106 (1) and (2) limit their ability to manage their portfolio holistically for the benefit of the basin resources.

⁶ See the GVIA's 2014 Market Report attached referenced Section 8.3.

⁷ CEWH's current [portfolio](#) equals 1,729 gigalitres with the Commonwealth and Basin States committed to bridge the gap to implement the Basin Plan by 2019.

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The GVIA recommend that Section 106 be removed in its entirety so that the CEWH has the ability to achieve environmental outcomes outlined within the Basin Plan through a variety of mechanisms.

6.3 Reducing Regulatory Burden

The GVIA is becoming increasingly concerned with the over regulation of the irrigation industry, as a result of the changes policies around water, much of this stems from the Water Act and the implementation of the Basin Plan. Figure 1 below highlights the involvement of 13 different Departments in the water sphere for both the Australian and NSW Government.

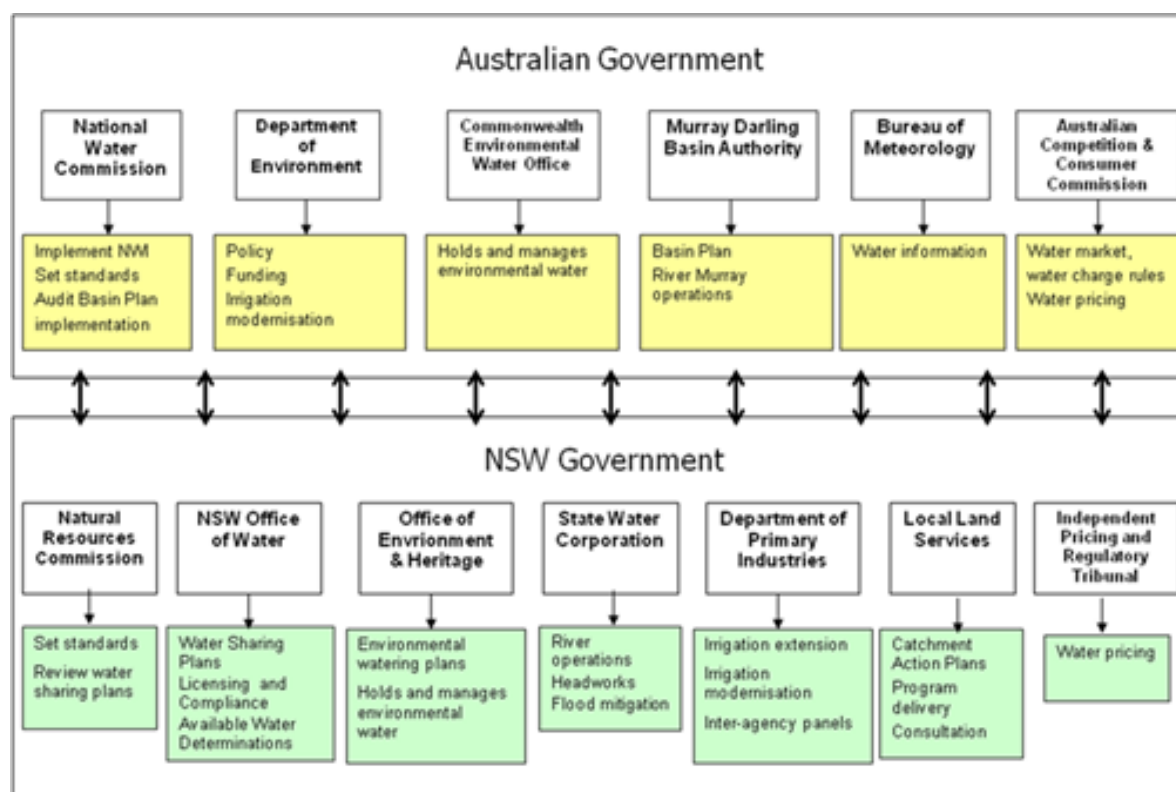


Figure 1 Government Regulation in the Water Industry⁸

Irrigators (let alone the community, who are even more confused) are left questioning who it is they need to talk with when they have an issue and most commonly questioning, is there 'doubling' up of resources between Departments and/or Governments.

The concerns were highlighted more recently to the GVIA during a meeting with the MDBA over environmental water planning. As background, the Gwydir Valley has had held and planned environmental water since 1977 (one year after the final construction of the Valley major dam), well before the development of the Water Sharing Plan for the region in 2004.

⁸ Source: Macquarie River Food and Fibre

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and the Basin Plan. Hence there is a history of planning and implementing environmental water management locally. However, under the Basin Plan, environmental water planning has evolved into its own industry with duplication. Below outlines the organisation and the type of planning they undertake:

1. MDBA – Basin Plan plus, long term and annual water use plan;
2. Commonwealth Environmental Water Holder – 5-year plan and annual water use strategies;
3. NSW Government – Water Resource Plans with environmental watering plans;
4. Gwydir Environmental Contingency Allowance Operational Advisory Committee – 5 year strategic plan and annual water use strategies.

However, it's interesting to note, that while all these groups are actively undertaking planning and preparing reports, only the CEWH and the NSW Government own water and both manage it through the Gwydir ECAOAC. The GVIA believe that the responsibility to plan for and use environmental water should rest with those entities that actually have environmental water and that at each level of government this should be centralised to streamline management.

There is no requirement for the MDBA to provide annual or long-term water use strategies when the Basin Plan provides the CEWH the clear objectives to be achieved. The CEWH have the responsibility to meet the requirements of the Basin Plan therefore, they should be the lead Commonwealth agency in planning strategies to meet this objective.

The GVIA recommend that all relevant sections of the Water Act including Section 18H, Section 31, and Section 114 be amended so that the CEWH are delegated full responsibility for Commonwealth Environmental Water including the long-term and annual planning for it use.

Another concerning issue for the GVIA is the further creation of 'silos' within Departments, further enhancing concerns overing doubling up but also constraining Governments to adequately deal with the issues at hand. As the Water Act outlines the roles and responsibility of a large number of agencies and is the foundation for subordinate legislation the opportunity to review and clarify the roles and responsibility should form part of this review.

Whilst the GVIA have ideas on proposed organisational structures, we in the first instance advocate for a specific in-depth review of all government agencies associated with water and water accounting and reporting in consultation with industry. A review should focus on how to best streamline and reduce both the regulatory burden and costs and how to improve efficiency of water policy implementation.

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The GVIA recommend a review of the roles and responsibilities of the agencies outlined within the Water Act to reduce duplication and allow for efficient policy implementation, including but not limited to:

- ***Bureau of Meteorology;***
- ***Australian Bureau of Agricultural and Resource Economics and Science;***
- ***National Water Commission;***
- ***Australian Competition and Consumer Commission;***
- ***Commonwealth Environmental Water Holder; and***
- ***Murray Darling Basin Authority.***

In the absence of a specific review, the GVIA support the following changes including:

- For the Bureau of Meteorology to collect, hold, manage and disseminate Australia's water information. In addition, the Bureau should also compile and maintain water accounts, including the National Water Account, and set information standards.
- For the Australian Bureau of Agricultural and Resource Economics and Science (ABARES) to conduct all research and science related assessments relevant for Water Resources in the Murray-Darling Basin.
- For the audit functions of the National Water Commission (NWC) to be transferred to either the Productivity Commission or the ACCC to utilise the existing knowledge and expertise in this area.
- For the CEWH to plan for and manage Commonwealth environmental water.
- For the MDBA to oversee shared / joint river operations.

7 Conclusion

The GVIA welcomes the opportunity to provide comment to the Independent Expert Panel on the statutory review of the Water Act 2007 (Cth). We believe that there are some key areas where the Act can be improved in particular the objectives of the Act, water trading and reducing regulatory burden and duplication.

We have as part of this submission provided five recommendations for considerations by the panel. We ask that these be considered as amendments to the Act.

Whilst proving our own submission, we also give our full support to the submission made by the NSW Irrigators Council and National Irrigators Council, of which the GVIA and individual irrigators are also members.

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8 Attachments

- 8.1 *Gwydir Valley Irrigators Association submission to the Murray Darling Basin Authority on the draft Basin Plan***
- 8.2 *Northern Irrigators Technical Questions for consideration in the Northern Review***
- 8.3 *Water Market Paper 2014***

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Submission to the Murray Darling Basin Authority

The Proposed Murray Darling Basin Plan

**Submission by:
Gwydir Valley Irrigators Association Inc
April 2012**

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1. Purpose of this Submission

This document has been developed by the Gwydir Valley Irrigators Association on behalf of its members as a formal submission for consideration by the Murray Darling Basin Authority when finalising the proposed Murray Darling Basin Plan (MDBP) and determining the future of water resource planning in our region.

This document represents the concerns and views of GVIA's members. However, each member reserves the right to express their own opinion and is entitled to make their own submission.

2. About the Association

2.1. Where we are and what we do

The Gwydir Valley Irrigators Association (GVIA) represents in excess of 250 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 its members, the environment and the Gwydir Valley community through irrigated agriculture.

Our members hold entitlements within the Gwydir regulated and un-regulated surface water areas, in addition to groundwater resources. All of which are managed through water sharing plans although the Water Sharing Plan for the Gwydir Unregulated and Lower Gwydir Alluvial Water Sources remains in draft at the time of preparing this submission.

The Gwydir Valley Irrigators Association organisation is voluntary, funded by a cents/megalitre levy on regulated, unregulated and groundwater irrigation entitlement. In 2010/11 the levy was paid on in excess of 87% of the eligible entitlement (excludes entitlement held by the State and Federal Government).

The Association is managed by a committee of 11 irrigators and employs a full-time executive officer and a part-time administrative assistant, as well as hosting a Regional Landcare Co-ordinator.

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While the core activities of the Association are funded entirely through a voluntary levy, the Association does from time to time, undertakes special projects, which can be funded by government.

The GVIA and its members are members of both the National Irrigators Council and the NSW Irrigators Council.

2.2. Association Contacts

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3. Summary

The Gwydir Valley Irrigators Association (GVIA) had hoped that following feedback from the Guide to the Basin Plan that the Murray Darling Basin Authority (MDBA) would have the ability and opportunity to deliver a balanced plan based not only on science but also in acceptance of the socio-economic impacts water reform will have on communities.

Unfortunately, it is GVIA's opinion that the current proposed Murray Darling Basin Plan (MDBP) differs only slightly from the Guide to the Basin Plan and

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that there are significant technical issues and risks associated with its implementation that must be addressed in the Basin Plan and throughout implementation.

The GVIA acknowledges the improvement and changes in MDBA thinking from the Guide to the Basin Plan. Of particular note the recognition by the MDBA that there is a lack of hydrological connectivity between the Gwydir Valley and surrounding catchments.

The GVIA is also supportive of the understanding that are hydrological differences between the Darling (Northern Basin) and the Murray (Southern connected Basin) and the acceptance of the NSW Government's Groundwater Water Sharing Plans as sustainable.

However, the GVIA is disappointed that the MDBA cannot accept the performance of Gwydir surface Water Sharing Plans in particular the Water Sharing Plan for the Gwydir Regulated Water Source. This plan has had proven excellent performance throughout both drought and wet sequences and has more than adequately supported the health and resilience of environmental assets in the Gwydir Valley, while sharing water between users.

The GVIA cannot accept that any more water above the current water sharing plan arrangements is required for the environment as justified by the proposed MDBP. Not only is the water sharing plan more than adequate, the methodology to determine water requirements in the Gwydir was flawed and is not considered by the GVIA as utilising the best available science.

The fact that the proposed MDBP remains focused on flow based requirements and water recovery rather than allowing a holistic approach to integrated catchment management, ultimately undermines its effectiveness of the plan in achieving a healthy working basin. Without addressing broader catchment issues including land management issues, any future environmental watering programmes to be developed will be ineffective in achieving their outcome. Water by itself will not build and maintain resilience within the Gwydir Valley.

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The GVIA is committed to a basin plan and accepts that most technical issues and questions about the proposed MDBP will not be rectified or answered in the short-term.

As a result, the GVIA proposes an amendment to the implementation phase that not only allows for technical issues to be resolved but for a number of additional reviews and activities to be completed that would better inform the Basin Plan.

This new timeline would ensure:

- Outcomes and lessons learnt from the mid-term review of the Basin Plan and water sharing plan reviews, are incorporated into an updated version of the Basin Plan;
- Environmental water use would be appropriately planned;
- Environmental water manages could demonstrate capacity to manage and efficiently achieve environmental outcomes; and
- Water recovery would be further staged and via a number of programmes including works and measures.

The GVIA proposes that this new implementation program is not an attempt to stall change but rather ensure that change is informed, well-planned and more thoroughly accepted. The GVIA believes that any changes that move the timeline longer will be more positive than negative to the water reform agenda, allowing more time to adjust.

Throughout the consultation process the GVIA continues to be frustrated by the lack of consistency between the legislative instrument and the subjective interpretation of this document by the MDBA, as presented in their 'plain English guide'. Any concepts or thinking that underpins the effectiveness of the Basin Plan like 'localism' or 'bridging the gap' should therefore be represented in the legislative instrument itself.

Finally, the GVIA cannot support a basin planning process that increases the level of bureaucracy and further complicates water management into the future.

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This submission includes 22 specific recommendations for further work and solutions to issues contained within the proposed MDBP. The GVIA calls on the MDBA to make allowances and amendments for the implementation of future work and these recommendations in the Basin Plan.

The GVIA will continue to work with the MDBA to ensure that together, the Basin Plan is indeed a plan for a healthy working basin.

4. Recommendations

1. *Recommendation: Allow all Gwydir NSW Water Sharing Plans to run their full term before reviewing and establishing another plan of use.*
2. *Recommendation: MDBA to undertake sensitivity scenario modelling on the implementation of the MDBA plan using the current water sharing plan arrangements to assess impacts to water reliability of general security and supplementary water entitlements.*
3. *Recommendation: Review current NSW Water Sharing Plans before implementing another plan of use.*
4. *Recommendation: The MDBA accept that the Gwydir Water Sharing Plans are more than adequate to provide water for the Gwydir Wetlands and surrounding environment.*
5. *Recommendation: Update the climate sequence with most current data by including 2010 and 2011 water years.*
6. *Recommendation: Remove the historical climate record and use the most current climatic sequence information and provide an appropriate review timeframe for updates.*
7. *Recommendation: MDBA to produce detailed, local level technical summaries of methodology and hydrological modelling utilised in the planning process.*
8. *Recommendation: MDBA and NSW Office of Water update modelling in the Gwydir to improve baseline numbers.*
9. *Recommendation: MDBA to review hydrological indicator sites in the Gwydir.*

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10. *Recommendation: That the timeline in Figure 1 be considered as an alternative for implementation of the basin plan.*
11. *Recommendation: Mid-term review to be undertaken following the completion of:*
 - *Review of current water resource plans; and*
 - *Development and implementation of environmental watering plans.*
12. *Recommendation: Legislation should reflect that outcomes from the mid-term review are to be incorporated into future versions of the basin plan.*
13. *Recommendation: Environmental Water Plans should be developed using integrated catchment management.*
14. *Recommendation: Environmental watering plans and actions should be developed with a principle of effectiveness in mind.*
15. *Recommendation: Additional levels of bureaucracy to be avoided and streamlined.*
16. *Recommendation: MDBA to consult with Northern Basin Communities the terms of reference of the Northern Basin Advisory Council.*
17. *Recommendation: Government's to delegate responsibility to localised groups to enact localism.*
18. *Recommendation: NSW Valley cap credits and debits to be carried over into basin plan.*
19. *Recommendation: Sensitivity analysis of the 20% variation on the long-term annual diversion limit is assessed for valleys that utilised continuous accounting.*
20. *Recommendation: Conversion factors better defined and are determined by the modelled long term reliability factor.*
21. *Recommendation: The MDBA undertake a regulatory impact statement in a transparent and open manner with community consultation.*

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22. Recommendation: MDBA to undertake an analysis of community resilience following changes in water availability as proposed in the Basin Plan.

5. Gwydir Valley Water Sharing Plans

The Gwydir is characterised as having eight water sharing plans that are current currently in place, these include:

- Rocky Creek, Cobbadah, Upper Horton and Lower Horton Water Source (2004);
- Gwydir River Regulated Water Source (2004);
- Gwydir Unregulated Water Source and Lower Gwydir Alluvial Water Sources (in draft) (2011);
- Lower Gwydir Groundwater Source (2006);
- NSW Great Artesian Basin Shallow Groundwater water sharing plan (2012);
- NSW Murray-Darling Basin Fractured Rock Groundwater water sharing plan (2012);
- NSW Murray-Darling Basin Porous Rock Groundwater water sharing plan (2012); and
- NSW Great Artesian Basin Groundwater Sources (not within the MDB plan scope).

Three of the above mentioned water sharing plans are due for review prior to the implementation of the MDBP in 2019. These plans should be allowed to complete their term prior to implementing another plan of use. Furthermore, the calculation of any baseline diversion limits for the Gwydir should include a combination of the data-sets of each of the surface and groundwater sources rather than focus on only the regulated systems.

The Gwydir Valley Water Sharing Plans are conservative in their design and are either limited at a level below the desired cap or below the sustainable

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recharge rate for groundwater aquifers. For example, the Water Sharing Plan for the Gwydir Regulated Water Source has a long-term average annual plan limit of 392,000 ML/year whereas the Murray Darling Basin Cap is 415,000 ML/year, allowing at least 23,000 ML/year being restricted from productive use and being made available to the environment on a long-term average flow.

The MDBA should provide greater recognition of the work undertaken by the NSW Government to manage water, their conservative approach and the performance of these plans during the drought. The following section provides an overview of the Gwydir Water Sharing Plans.

5.1. Performance

The Gwydir Water Sharing plans were designed to ensure sustainability and to operate across the full range of climate cycles and not just the climatic sequence considered by the MDBA¹. However, until 2009-2010 these plans have only had the opportunity to operate during the extended dry period which has been consistently described as a 1-in-100 year drought or the millennia drought.

However, it was during this extended drought period that all water sharing plans operating in the Gwydir Valley clearly demonstrated their ability to share water resources and manage water requirements during prolonged dry sequences. During the drought the Gwydir Regulated Water Sharing Plan was never suspended; critical water supplies were never threatened, and the Gwydir Wetlands were maintained at a healthy level, allowing them to fully respond to the increase in water availability that has occurred since. When the drought broke there was still some 17,000 ML of water in the Environmental Contingency Allowance (ECA) account which demonstrates that environmental managers had adequate resources to manage through this record dry time. This water was in addition to reserves held by the Commonwealth Environmental Water Holder at the time.

Since then, environmental water use by the Commonwealth has been at a minimum with the Water Sharing Plan Gwydir Regulated Water Source more than sufficient in delivering the environmental water requirements for the

¹ Historical Climatic Cycle defined in MDBP as 1895-2009

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Gwydir wetlands. In fact in 2009/2010² and so far in 2011/2012 no Commonwealth-held environmental water was used in the Gwydir with only 13,056ML in 2010/2011³.

When Commonwealth water was used in 2010/2011, more than 148,000ML of shared supplementary water alone was made available under the sharing rules providing the largest extent of inundation of wetland areas since 2004/2005 water year⁴. The GVIA predicts that this inundation outcome will be superseded during this water year, in addition to the successful bird breeding event in the Gwydir wetlands without the use of any Commonwealth-held water.

Commonwealth held-water would not be able to replicate the outcomes achieved in either 2010/2011 or 2011/2012. And hence, environmental outcomes can only be achieved through implementing and managing a successful water sharing plan. With the Gwydir Regulated Water Sharing more than adequate at utilising natural variability in flows, supporting ecological resilience and sharing available water between all users.

By any measure, the Gwydir Water Sharing Plans have achieved their purpose of maintaining the environment at a level that allows full response to varying and extreme climatic conditions whilst more than adequately sharing water between all users.

In particular the Gwydir Regulated River Water Sharing Plan is openly acknowledged, by the Authority⁵ and others, to fairly share the water resources of the valley in both wet times and dry. Furthermore, the Groundwater Water Sharing Plans for the region must also be considered appropriate as each plan limit was adopted by the MDBA as the current Sustainable Diversion Limit within the proposed MDBP.

Considering the above performance and acceptance by the MDBA on the effectiveness of the Gwydir Water Sharing Plans, the GVIA is perplexed at why the MDBA continues to disregard this past effort in establishing these

² Commonwealth Environmental Water 2009-2010 Outcomes report

³ Commonwealth Environmental Water 2010-2011 Outcomes report

⁴ Gwydir ECAOAC Annual Report, 2010-2011 OEH

⁵ Meeting MDBA and GVIA, 11 January 2011, Moree

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plans and the complex detail contained within, by not allowing them to run to their full term before reviewing and establishing another plan of use.

Recommendation: Allow all Gwydir NSW Water Sharing Plans to run their full term before reviewing and establishing another plan of use.

Furthermore, the MDBA continue not to recognise the ability of these plans to provide more than adequate environmental water and deliver on environmental outcomes by justifying the volume of water recovered so far in the Gwydir valley. Water over and above what the water sharing plans deliver is clearly unnecessary, given their performance both during the drought and since.

The GVIA strongly believe there is no justification to alter these plans nor is there justification for the water that has already been recovered. The GVIA believes that the proposed MDBP will create undue uncertainty within a region that has already significantly suffered water cut-backs in the past. The GVIA fears through implementing the proposed MDBP and in particular by adopting an inaccurate baseline diversion limit for the Gwydir, there is significant risk that there will be changes made to our current water sharing arrangements to accommodate environmental water use.

The GVIA have requested on occasion for the MDBA to undertake sensitivity scenario modelling to determine the impact that storage and utilisation of Commonwealth held environmental water will have on other users. To GVIA's knowledge there has been no attempt at this although the MDBA state that there will be no impact to reliability of water under the proposed plan⁶ there has been no evidence to support this claim.

Basic calculations by the GVIA would indicate that there would be significant reliability impacts to irrigator's access of supplementary water under the implementation of the proposed Basin Plan. This is considered unacceptable and must be considered by the MDBA prior to finalising the MDBP.

Recommendation: MDBA to undertake sensitivity scenario modelling on the implementation of the MDBA plan using the current water sharing plan

⁶ MDBA reliability statement

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arrangements to assess impacts to water reliability of general security and supplementary water entitlements.

5.2. Environmental Water

The main strength of the Gwydir Water Sharing Plans is that they clearly detail environmental water requirements. For the Water Sharing Plan for the Gwydir Regulated Water Source, under long-term average conditions the water sharing and account management rules within this plan allows for at least 66% of flows to be provided for the environment⁷. However, due to the fact that the Commonwealth has purchased 10% of supplementary water entitlements, which they do not utilise and all irrigators are constrained by their pump capacity, this baseline number within the water sharing plan in many years would actually be much higher.

The GVIA believes this water sharing plan water alone, should provide significant water resources to the wetland areas as they currently exist and that the water sharing plan should be reviewed before implementing another plan of use.

Recommendation: Review current water sharing plans before implementing another plan of use.

Environmental water for the Gwydir Regulated Water Source is provided for the Gwydir Wetlands and aims to ensure the core wetland areas are maintained and/or improved if possible. Importantly in the Gwydir, supplementary water, which is the flow that most clearly mimics the natural flow sequence, is shared between the environment and water users, with the environment having priority.

Over the long term, due to the Water Sharing Plan conditions and the limited extraction capacity of water users, approximately 74%⁸ of long-term average river flows have remained in river for environmental benefit. In addition to this, a 45,000ML Environmental Contingency Allowance with the ability to store up to 200% of this allowance is provided for wetland purposes. The

⁷ Water Sharing Plan for the Gwydir Regulated Water Source, DLWC, 2004

⁸ Calculation based on Water Sharing Plan long-term annual average river flows for the environment in addition to percentage of water recovered for the environment by the Commonwealth and NSW Government.

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proposed MDBP doesn't appear to fully incorporate this water in their calculations for water use nor has the Authority considered what this water is already achieving. The GVIA believe that if the MDBA better accounted for environmental water use it will be evident that environmental outcomes are already being achieved and where they might not be fully recognised, that improved implementation and coordination would likely solve most issues.

The management of the Gwydir Wetlands is outlined as an agreed framework within the Gwydir Wetlands Adaptive Environmental Management Plan⁹ (AEMP) and details the understanding and restoring ecological balance within the wetlands but also how to best utilise the ECA.

It is clearly articulated within the Gwydir AEMP the fact that the Gwydir wetlands have reduced in size however, there appears to be little acknowledgement of this fact at government levels. The wetlands have reduced in size by almost 76,216 Ha⁹. The Semi-permanent wetland is approximately 6,829 Ha and the floodplain wetland 77,949 Ha⁹. The majority of these areas are on private property and hence, there is little capacity for the wetland areas to increase, yet water recovery by the Commonwealth will essentially deliver more than 74% of the long-term average river flows to this reduced environment⁸.

Table 1 below represents the historical and current estimated wetland areas and their water use, based on the rate provided in the listed sources. The GVIA estimates a total water use of approximately 644 GL/year, which is greater the Murray Darling Basin Committees State of the Hydrology report which states that the natural water inflows of the Gwydir wetlands is 464GL/year¹⁰.

Table 1: Wetland Water Use

Source:	Rate (ML/Ha/Yr)	Wetland Water Use (GL/Year)		Difference (GL/Yr)
		Historical area 160,994 Ha	Current area 84,778 Ha	
GVIA	4	644	339	305
State of the Hydrology Report	2.9	464	354*	107
Gwydir AEMP wet season (low)	4	644	339	305
Gwydir AEMP wet season (high)	5	805	424	381
Gwydir AEMP dry season (low)	8	1288	678	610
Gwydir AEMP dry season (high)	17.4	2801	1475	1326
* Either a new rate has been applied of 4.2 ML/Ha/Yr, which is inconsistent with the rate proposed for historical water use or the estimate wetland area is 186,000Ha (which is not correct).				

⁹ Gwydir Adaptive Environmental Management Plan, DECCW, 2011

¹⁰ Reference MDBC state of hydrology report

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Table 1 also highlights the difference in water use or water requirements of the wetlands, due to their reduction in core wetland area over time. Consequently, less water is now required to maintain the wetland area, which is estimated by GVIA to be 339 GL/year. This is a reduction of 305 GL/year, almost equates to current total watercourse diversions prior to any programs to obtain environmental water, as presented in the Guide to the Proposed Basing Plan¹¹.

Table 2 below, outlines the water recovered for environmental purposes in the Gwydir in megalitres (ML) over and above the Gwydir Regulated water sharing plan, remembering that it was inherently designed to allow for 66% of an estimated 1,141,000 ML/year to flow to the environment⁷. The wetland water use requirement in Table 1, suggests 339GL/year which is less than the total volume of water provided through the Water Sharing Plan for the Gwydir Regulated Water Source. That is prior to any additional water recovered for the environment by the Commonwealth in Table 2 is taken into account.

Table 2 Environmental Water Recovery in the Gwydir

Year	Program	Volume of entitlement
1995	Murray-Darling Basin 1993/95 Interim Cap	
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.	20,000ML General Security
2006	Lower Gwydir Groundwater Source Water Sharing Plan reduced groundwater entitlements from 68,000 mega litres to 28,700ML.	39,300 ML Groundwater
2008 +	NSW State Government has purchased approximately 17,092ML of general security entitlement and 441 ML of supplementary entitlement. Commonwealth 89,525ML ¹² of General Security Water with 375ML ¹² of High Security Water. The majority of which was through buy-back and a	375 ML High Security 106,617 ML General 19,541 ML Supplementary

¹¹ Guide to the Proposed Basin Plan (2010), Murray Darling Basin Authority

¹² Commonwealth Environmental Water Office website:
<http://www.environment.gov.au/ewater/about/holdings.html>

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	<p>minor proportion through Irrigation Efficiency Programs.</p> <p>Commonwealth also purchased in excess of 10% of the valley's supplementary entitlement equalling 19,100ML¹².</p>	
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With this in mind some might suggest that the environment has sufficient water available to survive without the requirement for productive water to be recovered and that the Gwydir Water Sharing Plans are more than adequate at meeting environmental requirements, while sharing water.

Recommendation: The MDBA accept that the Gwydir Water Sharing Plans are more than adequate to provide water for the Gwydir Wetlands and surrounding environment.

Furthermore, there are a myriad of risks to the condition of the Gwydir wetlands not just water availability or flow frequency and duration. The Gwydir wetlands and surrounding areas are under threat from invasive species, such as lippia and water hyacinth and feral animals such as European carp and pigs⁹. Without addressing broader catchment issues including land management issues, any future environmental watering programmes will be ineffective in achieving their outcome.

Many of the proposed watering options within the Commonwealth Environmental Water Office's draft Integrated Water Delivery Document for the Gwydir River¹³ are constrained by these ecological and land management issues within the region. This cannot be more clearly highlighted than by the proposed use of environmental water to maintain baseflow requirements in the wetlands, which was described as a means to limit lippia. This one action will only be effective if grazing is also managed in the area. Furthermore the provision of additional peaks for fish breeding purposes will also be ineffective if cold water pollution issues are also not addressed.

¹³ Commonwealth Environmental Water Office, Draft Integrated Water Delivery Document for the Gwydir River, 2011.

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5.3. Climatic sequence

A key feature of the hydrology and climatology of the Gwydir Valley is its extreme variability. Significant dry periods and significant wet periods are integral parts of the natural flow pattern of the Gwydir Valley.

The environment and irrigators are now adapted to these patterns. The Gwydir wetlands require drying down periods⁹, which should naturally occur through droughts and the majority of irrigators, grow crops opportunistically utilising what water they have available for the best economic return.

The Gwydir Water Sharing Plans are uniquely designed to account for this variability and more importantly, designed to incorporate new data as it becomes available. They are based on a rigid framework that provides certainty for 10 years of operation (the review timeframe) but are updated annually to allow for changes in climatic conditions, water availability and water use. Water allocations to users are provided regularly to account for these changes.

For example, although the Water Sharing Plan for the Gwydir Regulated Water Source uses a climatic period from 1882-2004¹⁴ the model dataset is updated following the completion of each proceeding water year. The climatic period is then updated following the plans review, which for the he Water Sharing Plan for the Gwydir Regulated Water Source is due before 2014.

Under the proposed MDBP this climatic sequence is legislated as 1895-2009¹ and does not provide for updated information or reviews. This period is updated from previous planning but ceases during a drought period and does not include the most current data-set which would be up to 2010/2011 water year. This approach is contrary to the principle of using “best available scientific knowledge” which has been thrown at us so often during this planning process.

Recommendation: Update the climate sequence with most current data by including 2010 and 2011 water years.

The fact that the climate sequence is legislated for a fixed period as described within the definition for historical climate conditions is neither best science nor

¹⁴ Water sharing plan reference for climatic sequence

logical. With unknown climatic variation to occur in the future, how can the period from 1882-2009 be representative of what climatic conditions are yet to come and how can this period take into account climate change or changes in water use in response to policy?

The MDBA should remove this legislative barrier within the proposed MDBP allowing for a fully flexible climatic period that utilises the most current data-set at the time of preparation and provide a review timeframe by which it can be updated. This is critical for the MDBA to meet its obligations under the *Water Act*¹⁵ to utilise best available scientific knowledge¹⁶ and not select periods for simplification.

Recommendation: Remove the historical climate record and use the most current climatic sequence information and provide an appropriate review timeframe for updates.

The GVIA proposed that in updating the climatic sequence the MDBA should also consequently update the reliability conversion factors and sustainable diversion limits that are known functions of climate.

6. Setting of Sustainable Diversion Limit

The GVIA have continuously raised concerns regarding the technical aspects of the proposed MDBP and the basis in-which baseline and future sustainable diversion limits have been developed. Although the GVIA acknowledges the improvements in the conceptual understanding and hydrologic modelling of the Gwydir Valley since the Guide to the Basin plan, notably the acceptance that the Gwydir is a terminal closed system with limited connectivity to the Barwon River.

The difficulty with the technical debate associated with the basin plan, is the sheer volume of technical supporting documents released by the MDBA and the timeframe in which these were made available. Many of these documents were not released simultaneously with the proposed MDBP and most have only been provided more than half-way through the consultation period. Not

¹⁵ Water Act (Commonwealth) 2007

¹⁶ Section 21(4)(b) *Water Act* (Cth) 2007

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to mention that most are high level, overarching documents and there is not one, compendium of technical information at a local level.

The GVIA has already recommended¹⁷ and requests for a second time that the MDBA should prepare local valley level technical summaries which would help to address miss-communication regarding technical components of the plan.

Recommendation: The MDBA to produce detailed, local level technical summaries of methodology and hydrological modelling utilised in the planning process.

The GVIA accepts that in the current timeframe there is limited opportunity to rectify the technical issues. Nonetheless it would be remiss of the GVIA to not clearly outline these issues within this submission and hence, this section includes a brief highlight of the main technical issues encountered thus far.

The GVIA is committed to working with the MDBA (and the NSW Government) to resolve technical issues with the proposed MDBP.

6.1. Process for determining ESLT

The Gwydir Valley is unique catchment, it is a terminal delta system that's end of system flow is now greater due to development rather than without development¹⁸. However, should this uniqueness be replicated in the refusal to adopt methodology consistently under the proposed MDBP?

The methodology employed to determine the ecological sustainable level of take (ESLT) for the Gwydir valley like the Macquarie and Lachlan was altered to model the volume of water recovered, not what could be required under a basin plan. The GVIA seek further clarification on how and why this adopted methodology was different and the implications locally if consistent methodology was applied.

¹⁷ Meeting with NOW, MDBA and Northern Valley Representatives, Sydney, 28 February 2012

¹⁸ Gwydir Valley System Considerations, GVIA, 2011

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The MDBA provide two scenarios for determining the ESLT¹⁹ both of which are different to the agreed ESLT methodology, modelling either 52 GL/year or 42 GL/year. With the latter apparently based on updated estimate of the long term average usage of entitlements already recovered¹⁹. Neither volume has been determined as the required volume for the environment but rather a volume that meets a larger number of hydrologic indicator flow rates compared to either the without development or baseline conditions.

The GVIA submits that both volumes proposed in ESLT scenarios are a function of what has been recovered and vary only due to the November 2011, conversion factor debacle to be discussed later in Section 7.4 Compliance. As there is a lack of history of use of Commonwealth held water and the updated estimate is the change of general security conversion rate from 0.55 to 0.38.

Furthermore, the GVIA is disappointed that there is a continued focus on hydrologic indicator flow rates within the ESLT mythology. There is little evidence in supporting documentation that indicates a significant change in thinking from the Guide to the Basin Plan regarding these indicator sites, especially considering the focus remains on comparing current or proposed conditions to without development scenarios.

The GVIA has long protested the inaccuracy of the without development scenario for the Gwydir Valley and has serious concerns regarding the MDBA's baseline scenario as well. Using inaccurate data as a control or measuring tool in which decisions are derived from, can only result in the decisions being inherently inaccurate as well.

The GVIA have concerns with regard to the modelling assumptions used by the MDBA when updating the state-based model for the valley. In particular the assumptions around the environmental demand time series; the types of entitlement included in the series and the proposed utilisation methodology. The GVIA are concerned that the time series does not accurately reflect the current environmental entitlements recovered in the Gwydir Valley or their history of use.

¹⁹ Hydrologic modelling to inform the proposed Basin Plan: Methods and Results, MDBA, 2012

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The GVIA have doubts regarding the accuracy of the baseline diversion limit (BDL) for the Gwydir and the significant changes in diversions from all previous literature. The GVIA does not accept the current diversion limit of 450GL/year and that the volume for floodplain harvesting, unregulated flows and regulated flows is under-estimated. The GVIA recommends that further work be undertaken on the modelling of the Gwydir with the assistance of the NSW Government to improve this number and as a major stakeholder, the GVIA would be more than willing to assist.

Recommendation: MDBA and NSW Office of Water update modelling in the Gwydir to improve baseline numbers.

The GVIA believe that without a clear and transparent process to determine the ESLT and confidence that the MDBA have used best available science there will continue to be doubt around any numbers proposed in the basin plan.

6.2. Objectives of ESLT

The GVIA also have raised concerns over the hydrologic indicator sites as justification for the ESLT. The GVIA advocates for holistic integrated catchment management and does not accept the determination of flow rates, duration and frequency as surrogated for a health working basin.

The GVIA request that a review of the Gwydir's hydrological indicator sites be completed, with particular interest in the Mallowa sites where the proposal is to develop that system beyond its current baseline or without development condition.

Recommendation: MDBA to review hydrological indicator sites in the Gwydir.

An assessment of the baseline conditions should also be included in any modelling results so that a comparison of what is already being achieved can be easily determined. This is essential considering that the Gwydir Water Sharing Plans are more than adequate at providing the environmental requirements in the Gwydir Valley.

The GVIA supports the recognition by the MDBA that environmental water cannot be used to achieve all the desired environmental outcomes in the

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Gwydir, in particular over bank flows and that these naturally occur as evident by the most recent flooding in November 2011 and January 2012.

7. Implementation

The GVIA has accepted that water recovery has already occurred within the Gwydir and that the water recovery target outlined in the proposed MDBP has been met, despite our refusal to accept the requirement for additional water. As a result the GVIA has taken considerable interest in the proposed implementation programme for the Basin Plan.

The following section outlines a number of areas of the implementation phase where the GVIA has made recommendations for improvement. In submitting this section, the GVIA acknowledges that the MDBA have proposed a number of positive processes within the implementation phase of the Basin Plan.

However, most of these are presented only in communication with the MDBA or in the 'plain English summary' and are not reflected in their entirety within the legislative instrument. For instance the acceptance to purchase the gap between current entitlements and the sustainable diversion limits does not appear as a commitment within the proposed MDBP.

Essentially for there to be acceptance of a Basin Plan, the GVIA believe that the MDBA need to more clearly align their 'thinking' and 'interpretations' within the 'plain English guide' with the legislative instrument. This is especially significant when such thinking has the ability to undermine the effectiveness and acceptance of the Plan like with "localism" or "bridging the gap".

Overall the GVIA believes there remains too much uncertainty around the roles and responsibilities of governments and communities in a future with the basin plan. There appears to be little understanding or communication between the MDBA and basin states on how water resource plans will be developed and managed. A clearer understanding of the future with a Basin Plan is also essential for communities and governments to support a Basin Plan.

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7.1. Timeline and review

GVIA believes that the timeline for review and implementation of the proposed Basin Plan is inadequate to collect, inform and update water resource plans in the basin. The proposed MDBP was developed reactively during the drought and now with the short-term return to wetter climatic conditions and the significant volume of Commonwealth environmental water holdings, it appears socially irresponsible to rush the finalisation of such a pivotal piece of the reform to meet such an inadequate timeline. An attitude shared by others including the NSW Primary Industries Minister, Katrina Hodgkinson²⁰.

GVIA proposes the following timeline outlined in Figure 1, which utilises additional scope for implementation of the basin plan as outlined within the temporary diversion limits²¹ allowable under the *Water Act*. This timeline assumes that the Basin Plan is accepted by parliament in 2012.

Following this timeline, water recovery is staged, the outcomes of the review are incorporated into future versions of the basin plan and all States will have recovered and planned for their environmental water use before the consistent implementation date of 2024.

Recommendation: That the timeline in Figure 1 be considered as an alternative for implementation of the basin plan.

The GVIA agree with the principle of the mid-term review in 2015²², although we believe its completion date is premature. At a minimum the review should occur only after current water resource plans have been reviewed by Basin States and environmental watering plans have been developed and preferably implemented for a number of years. The review would also benefit from the completion of a number of works and measures projects and regionally specific socio-economic impact assessments. All of which will be unachievable by Basin States in the current timeframe.

Recommendation: Mid-term review to be undertaken following the completion of:

²⁰ "Call for deluge to delay federal Murray-Darling takeover plans" Sarah Martin and Rebecca Puddy, The Australian, 07/03/2012

²¹ Section 24(1) and (5) Water Act (Cth) 2007

²² Section 6.07 Proposed Basin Plan (2011)

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- *Review of current water resource plans; and*
- *Development and implementation of environmental watering plans.*

By holding the review in 2017 as proposed in our recommended timeline in Figure 1, there will also be time for the MDBA and the Basin States to properly work through any technical issues contained within the supporting documentation of the proposed MDBP.

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Reference	Activity	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1.1	Proposed basin plan for consultation.													
1.2	Ministerial approval of Basin Plan.													
2.1	Water sharing plan reviews.													
2.2	Environmental watering plans developed (long-term and short-term), prioritised by valleys where the volume of water held for the environment is the largest.													
2.3	Works and measures implemented.													
2.4	Acquisition of water required for the environment through a variety of programmes (volume capped at 50% of the volume believed to be required)													
2.5	Gwydir regulated water source and Rocky Creek, Cobbadah, Upper and Lower Horton River water source water sharing plans reviewed													
2.6	Rewiew of Water Act (Cth) 2007													
2.7	Implemenation of National Metering Standards													
3.1	Possible mid-term review date - cannot occur without 2.1 & 2.2 being completed													
3.2	Update of basin plan													
4.1	Acquisition of water required for the environment through a variety of programmes (volume capped at the gap between recovered and reviewd ESLT)													
4.2	Development of new water resource plans													
5.1	Implementation complete													

Figure 1 Timeline for MDBP Implementation

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The GVIA accepts that any technical issues surrounding BDLs and the calculated ESLT as described in earlier sections will not be rectified before the MDBP is accepted by parliament. However, these technical issues need addressing and should be considered as a core aspect of the mid-term review.

Furthermore, the objectives and terms of reference of the mid-term review should be clearly outlined within the Basin Plan. Not to mention that the outcomes for the review should be considered as drivers for change to any future versions of the basin plan and therefore, the legislative instrument should be updated to incorporate changes following reviews.

Recommendation: Legislation should reflect that outcomes from the mid-term review are to be incorporated into future versions of the basin plan.

Overall, the GVIA believes that the later implementation date will be more beneficial than detrimental. It corresponds to the MDBA's theory that a slower implementation will help to alleviate socio-economic impacts but also allows for there to be more time to get the basin plan right; reduce technical issues, incorporate lessons learnt and better inform communities and Basin Governments on their responsibilities.

7.2. Principles of environmental water management

The Gwydir region has met its requirement for water recovery under the proposed MDBP. Approximately 74% of long-term average annual river flows⁸ are now provided to the environment and the GVIA continues to be concerned how this water will be accounted for, managed and utilised into the future.

The GVIA believes that any environmental plan developed as required under the proposed MDBP should be done so using theories of integrated catchment management to achieve multiple outcomes rather than water based objectives and not in isolation as proposed. As explained in Section 5.2 Environmental Water; water availability and frequency are not the main environmental threats to environmental assets in the Gwydir but there are a myriad of threats and land management issues that also need to be addressed. Water by itself will not build and maintain resilience within the Gwydir Valley.

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Recommendation: Environmental Water Plans should be developed using integrated catchment management.

Catchment Management Authorities (CMA) in NSW and their equivalents in other Basin States are the organisations that the GVIA believe are best positioned to provide a holistic approach to water management. It is essential that these organisations are included in the environmental planning process. The GVIA also believe that environmental watering plans could indeed form part of the Catchment Action Plans that CMAs already prepare and manage.

Further to that GVIA believes that principles in prioritising and managing environmental water as described within the proposed MDBP²³ should be developed with consideration to the 'effectiveness' that the action has on achieving outcomes holistically.

All plans and watering actions should outline the environmental, physical and policy-based constraints that could impact the effectiveness of utilising water i.e. what inhibitors are there in any watering event in achieving the desired outcome. There should also be measures and processes to encourage efficiency in water use that could include a cost-benefit analysis of the use of environmental water to achieve said outcomes.

Recommendation: Environmental watering plans and actions should be developed with a principle of effectiveness in mind.

The current principles and the proposed MDBP itself does not encourage environmental water managers to improve their practices and be efficient with the use of public funded water but rather provides them with a fixed amount of water for unlimited purposes without holistic outcomes.

7.3. Bureaucratic Linkages and the Northern Basin Advisory Committee

The GVIA has always been supportive of the Basin Plan as a deliverable of the National Water Initiative. However, we continue to hold reservations about the levels of bureaucracy now being involved in water planning with particular reference to our own situation in NSW.

²³ Chapter 7, Part 6 and Part 7, Proposed Basin Plan (2010), MDBA

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For example, the environmental planning process as described in the proposed MDBP²³ suggests that for any particular valley, there could be at least four environmental watering plans in place that need to be adhered to, and the possibility that other holders of water may also have a plan.

Using the Gwydir as an example, this would bring the total number of plans for environmental watering to nine, with those above the line outlined within the proposed MDBP and those below the line, already in existence:

1. Murray Darling Basin Plan;
 2. Basin annual environmental watering priorities;
 3. Water resource area long-term environmental watering plan;
 4. Water resource area annual environmental watering plan;
-
5. State-based water watering plan;
 6. Commonwealth-held water strategic plan;
 7. Commonwealth-held business plan;
 8. Gwydir Wetlands Adaptive Environmental Management Plan; and
 9. Border Rivers-Gwydir Catchment Action Plan.

Not only will there be considerable duplication of water planning, there is potential for conflicting priorities and negative environmental outcomes. Clearly, basin planning cannot result in additional layers of bureaucracy to develop and implement water sharing plans and environmental watering plans in the future. The GVIA believes that the MDBA should show leadership on this issue, as the best placed organisation to insight change albeit legislatively or through advice to Government.

Recommendation: Additional levels of bureaucracy to be avoided and streamlined.

Furthermore, the GVIA strongly believe that any future planning should have an improved level of local input not just government rhetoric of such a concept like “localism” and that there is delegated responsibility from the appropriate levels of Government to any locally driven group. Localism has been promoted as the mechanism to implement the Basin Plan yet there is no framework and no resources available to actually make this concept a reality.

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This is of particular reference to any future groups like the Northern Basin Advisory Committee.

While the GVIA supports the concept of establishing a Northern Basin Advisory Committee to assist with the implementation of the basin plan, the GVIA are still not aware of the terms of reference for this group and what their role and responsibilities will be. Again GVIA holds reservations that without this information and the appropriate delegation of responsibility to committee or any such group, they may exist as just another layer of bureaucracy without any tangible role in water reform.

Recommendation: MDBA to consult with Northern Basin Communities the terms of reference of the Northern Basin Advisory Council.

Recommendation: Government's to delegate responsibility to localised groups to enact localism.

7.4. Compliance

Not only are the GVIA concerned by an equivocal future under the basin plan, we are also extremely concerned with the proposed compliance and monitoring program outlined within the proposed MDBP²⁴.

As explained in Section 5 Gwydir Valley Water Sharing Plans, these water sharing plans are not only conservative in their design but have also excelled at their environmental performance. One of the many outcomes of this process is that the Gwydir Valley remains well below the Murray Darling Basin Cap and is considered to be in credit.

NSW Water Commissioner David Harriss said that the water sharing plans were devised to allow for the high variability of the system, so that credits can be accumulated during dry years to allow for utilisation of water during wetter years²⁵. Whereas in the proposed MDBP, the MDBA intends to overrule 100 years of water management by NSW, eliminate this accumulated credit²⁶ and install a 20% limit on variability²⁷. Variability is the strongest feature of the

²⁴ Chapter 6, Proposed Basin Plan, MDBA (2010)

²⁵ NSW Government MDBP listening tour, Moree Services Club, Tuesday 8 February 2012.

²⁶ Chapter 7, Part 4, Division1, S 6.09, Proposed Basin Plan, MDBA (2010)

²⁷ Chapter 7, Part 4, Division 2 S 6.13

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environment and water flows in this region, and to artificially limit it makes no environmental sense to us.

The accumulation of cap credits is due to the hard-work by the NSW Government and industry during periods of extreme climatic conditions. The GVIA believe that any credits (and debits) should be carried over and included in future versions of the Basin Plan. Any policy that contravenes this will clearly encourage unnecessary utilisation of water and encourage perverse outcomes that would ultimately contradict the aims of the basin plan.

Recommendation: NSW Valley cap credits and debits to be carried over into basin plan.

The GVIA also believes that there is scope within the *Water Act*¹⁵ to allow for this under the temporary diversion limits²¹ as referred to in Section 7.1 Timeline and review.

Furthermore, the GVIA is concerned that the utilisation of a 20% variation on the long-term annual diversion limit may also result in the loss of the cap credit system (not just the cap credits themselves), which is currently in place in the Gwydir. The GVIA believe that this change in account management rules will be overly restrictive to valley's that utilise continuous accounting, like the Gwydir. Continuous accounting is a separate account management mechanism from carryover and was designed in response to the variable nature of flow regimes.

GVIA suggests that the MDBA undertake sensitivity analysis on the implementation of a 20% variation on valley's like the Gwydir and consider a specific variation limit be determined for areas where continuous accounting is utilised.

Recommendation: Sensitivity analysis of the 20% variation on the long-term annual diversion limit is assessed for valleys that utilised continuous accounting.

Notwithstanding the above, if the intent of the proposed basin plan is replace the current cap credit system and install a 20% threshold of variation on long-term average extractions, then the MDBA are proposing to overhaul the current account management principles which will result in adverse changes

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to water user's access and reliability of water. The GVIA does not support any alteration to the current cap credit system for compliance.

However if the intent is not to remove the current cap credit system, then at a minimum the basin plan should be updated to be more explicit in the determination of compliance.

The GVIA is also concerned with the adjustment factors used to convert current water access entitlement to a common unit by different government bodies. This has been further complicated by the fact that the proposed MDBP requires a simplified accounting of a variety of water assets to determine the gap between current diversion limits and proposed SDLs.

There appears to be a lack of understanding of what the conversion factors are and what they are designed to be used for within a multitude of government levels. Conversion factors are an assessment of long-term reliability of water as calculated from state-based water management models like the NSW's Integrated Quantity and Quality Model. They use actual data over the preceding water years to determine the long-term reliability; they cannot be manipulated to make predictions regarding future water availability to account for the onset of climate change or of market behaviour.

Sudden changes in conversion factors have the potential to result in disastrous market implications, as discovered by the Commonwealth in November 2011²⁸ when they altered conversion factors and undermined their own water portfolio overnight. These new factors, although overhauled by the Ministerial Council shortly after their release would have resulted in Gwydir General Security conversion factor increasing to 0.55 (rather than 0.38²⁹) and supplementary decreasing to 0.01 (rather than 0.55²⁹), which would have rendered the Commonwealth's investment in 19000 ML of supplementary water entitlement useless albeit on paper, as the rates were not supported by historical reliability or the NSW Government at the time.

The GVIA believes that the definition and utilisation of conversion factors need to be better explained within the basin plan and that changes to these factors cannot occur on such a whim, especially with basin state and industry consultation.

²⁸ "Cruel blow to irrigators", Peter Hunt, Weekly Times, 02/11/2011

²⁹ Water Availability in NSW Murray-Darling basin regulated rivers, DWE (2009)

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The GVIA also believes that this factor should be the modelled long term reliability factors as determined and provided by the basin states for the same climatic sequence period selected for the basin plan that must be used by all market participants. The Commonwealth must accept these as their conversion factors at the time of acquisition of water and calculate their water portfolio accordingly. Change to those factors must therefore only occur via the process set out in the Act for a change to the Plan itself.

Recommendation: Conversion factors better defined and are determined by the modelled long term reliability factor.

7.5. Risk

The GVIA supports and acknowledges the adoption by the MDBA of the risk assignment principles although advocates that there is greater clarity between the plain English version of 'risk' as opposed to that presented in the proposed MDBP legislative instrument.

The GVIA is concerned that a regulatory impact statement has not yet been developed for the basin plan. This statement is a requirement of both the Australian Government and the Council of Australian Governments (COAG) prior to the inception on any significant regulatory proposals. GVIA recommends that this is undertaken in a transparent and open manner with community consultation.

Recommendation: The MDBA undertake a regulatory impact statement in a transparent and open manner with community consultation.

7.6. Opportunity for changes

The GVIA supports the MDBA proposed framework that presents BDL and SDL for valleys within schedules as attachments to the basin plan, thus allowing them to be altered more easily than the main content of the basin plan³⁰. The fact that there is opportunity to update these values pending technical reviews and more information is essential for the GVIA to support any Basin Plan.

³⁰ Stakeholder meeting with MDBA, Moree 14 February 2012.

8. Socio-economic Considerations

The Gwydir Valley has already met its water recovery targets for proposed new sustainable diversion limits within the proposed MDBP. As such, 42GL/year of entitlement has been recovered for the environment at the detriment of the communities within the Gwydir region.

The majority of this water was recovered quickly and through the Australian Governments buy-back programme and was recovered without consideration to the vulnerability of the region to water availability decline or transitional process. Furthermore, the water within the Gwydir was recovered without any consideration regarding the location of water licences, the types of licences and the volume required.

As a result, the Gwydir Valley like the Macquarie and Lachlan valley's, presents itself as a unique example of what socio-economic impacts other communities may incur following the implementation of the proposed Murray Darling Basin Plan. The GVIA encourages the MDBA to investigate more closely the socio-economic impacts of these regions and focus these studies regionally rather than basin-wide.

The GVIA's main concern regarding water recovery for the environment is the ability for the community and business to response to low water availability into the future. That is how will the community respond following the next drought sequence and has our productive base lost too much to fully recover. The GVIA believes that it is the responsibility of the MDBA to assess these questions of community resilience with reference to the localised impacts.

Recommendation: MDBA to undertake an analysis of community resilience following changes in water availability as proposed in the Basin Plan.

Importantly, such a study as recommended above should also form part of the mid-term review as additional knowledge to be gathered prior to implementing the basin plan.

The key lessons learnt by the GVIA from water recovery in the Gwydir include:

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- Proceeds from buy-back sales are not maintained within the community and are used to retire debt and/or retire and even to invest in activities outside this region and overseas;
- Substitution of dry-land farming occurs, however at a significantly reduced productivity level (average irrigated cotton production per ha is 9 bales/ha³¹ where as dry land is between 2.5-4 bales/hectare³²);
- Jobs lost from irrigation areas are not retained within the region as there are no other growth industries to accept the increase labour;
- Satellites towns and surrounding areas are highly sensitive to changes in water as their economy of scale cannot compete with larger centres; and
- Many changes to business, schools or government services are permanent.

Submission ends...

³¹ NSW DPI 2011, Northern Irrigated Transgenic Cotton gross margin

³² NSW DPI 2011, North-west, North-East Dry land Transgenic Cotton gross margin

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Technical Questions

For Northern Valley Irrigator Group Meeting with the MDBA and NBAC Subcommittee

Baseline diversions

Each of the northern valley groups has questions regarding the MDBA's determination of the BDL for their valleys. There are significant reliability risks when valleys move from current water sharing plans to water resource plans in 2017 if the MDBA's work inaccurately determines BDLs.

To address this issue for each northern valley:

- Can the MDBA provide a detailed breakdown and reconciliation of the BDLs with the WSP numbers by water source and licence, or access, class?
- Can the MDBA explain what modifications were made to any of the WSP model runs in adopting them for use in the BDLs and further, how the models were linked across valleys?
- Can the MDBA explain how 'historic effort' number has been accounted for in BDLs and why this hasn't been credited against the shared number?
- Can the MDBA update the BDL assumptions and model runs to:
 - a. Accurately represent the WSPs;
 - b. Update climatic sequences;
 - c. Rectify technical issues as outlined in their independent review of MDBA models by Barma Water Resources.

Environmental water requirements – in valley

Each of the northern valley groups has questions regarding the application of the ESLT methodology and the value judgements that informed the process. The process for determining and meeting environmental flow targets is subjective and lacks transparency and consistency, which means that the local reduction requirements are subjective and lack transparency and consistency.

To address this issue for each northern valley:

- Can the MDBA provide a process diagram to outline the inputs, assumptions and outputs of the SDL methodology in regard to Step 3, 4 and 5 of the ESLT methodology?
- Can the MDBA explain why there are inconsistencies in applying the ESLT methodology?
- Can the MDBA explain what was wrong with the WSPs?
- What 'new science' informed the revised flow targets that informed the new SDLs?
- Why does the MDBA consider the proposed number to be right and what specifically is it for?
- Given where we were with the WSPs why can't the local targets be achieved by managing delivery of the available water differently, thus allowing additional volumes number to be credited against the downstream number?
- Can valley specific scenario testing with irrigator groups be undertaken to test alternative decision making processes and key hydrological indicator sites?

Environmental water requirements – downstream

Each of the northern valley groups rejects the assumption that environmental water from our valleys can be managed to meet outcomes at the end of the Barwon-Darling. Making storage and delivery decisions in upstream valleys to achieve outcomes in the Barwon-Darling is effectively seeking to regulate an unregulated system impacting the efficient and effective use of water and posing significant reliability risks to the upstream valleys.

To address this issue:

- Can the MDBA provide more information on the specific environmental outcomes not flow outcomes for the Barwon Darling and provide evidence of how northern valleys contribute to this? The outflow number from Menindee is a politically driven construct unless specific environmental outcomes for the Barwon-Darling can be demonstrated. Answers to date have all been flow duration curves alone & this is not an acceptable justification.
- What requirement is there for northern valleys to provide inflows into Menindee lakes?
- Can the MDBA provide additional understanding and detail on how individual valley models are connected to provide inflows into the Barwon Darling?
- Can the MDBA explain the storage impacts in upstream valleys as a result of calling on water to deliver flows to the Barwon Darling?
- Can the MDBA explain why connectivity provisions that have existed since 1990's are not all included in the BDL modelling, specifically THE INTERIM NORTH WEST UNREGULATED FLOW PLAN IS NOT INCLUDED?
- Can the MDBA explain why shepherding has been assumed in the BDL when it is not a current rule?
- Can the MDBA update the modelling to:
 - a. Include the Interim North West Unregulated Flow Plans;

- b. Review the assumed additional inflow of 198 GL into the lakes following the requested update in modelling in valley requirements for upstream systems;
- c. Remove shepherding assumptions for Northern Valleys to the Barwon Darling.

Environmental water recovery progress

Each of the northern valley groups questions the conversion factors used to determine the LTAAEL equivalents for entitlement that has been recovered to 'bridge the gap' to new SDLs. Currently there is no consistent basis with up to seven different sources utilised by the MDBA to determine these conversion factors. The approach for measuring SDLs and recovery progress is inconsistent and lacks transparency. Further, the current approach underestimates the volumes of water already recovered in the northern basin.

To address this issue for each northern valley:

- Can the MDBA provide a detailed breakdown and explanation of the conversion factors used by water source and licence, or access, class?
- Can the MDBA update the conversion factors to:
 - d. Reflect the updated modelling and assumptions used to determine SDLs;
 - e. Update the recovery progress in the north.

Environmental watering activities

Each of the northern valley groups are concerned that the current use of environmental water holdings does not reflect the flow targets that are the basis of the new SDLs. If we don't achieve the basin plan outcomes due to use of environmental water there is a risk to our regional industries and communities that this will result in another grab for water when the plan is reviewed.

To address this issue:

- Can the MDBA provide an update on the development of environmental watering plans to deliver Basin Plan objectives?
- Can the MDBA provide an update on the monitoring framework and activities?

Scope of Northern Basin Review

Each of the northern valley groups has a number of outstanding technical issues that should be addressed through the Northern Basin Review. Greater clarity needs to be provided around the scope of the northern basin review and the role of the MDBA, NBAC and our groups.

To address this issue:

- Can the MDBA explain what is open to change and what isn't? Is the extent of change limited & if so, limited to what?
- Is the total flow volume requirement of 390 GL for the northern basin able to be adjusted if the northern review "settings" results in changes to models, assumptions and outcomes?

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Analysis of the Temporary Water Market for the Regulated Gwydir Valley – review and feedback of the Commonwealth Water Trade Opportunity in 2014

Purpose:

This paper has been provided for the members and interested stakeholders of the Gwydir Valley Irrigators Association Inc to assess and review the temporary water market of our valley as a means to review the impacts of the Commonwealth Water Trade Opportunity of 10GL in January 2014 and provide feedback on this opportunity.

Long-term Analysis:

The Water market over the past 10-years of the Temporary Gwydir Regulated Water Market and a detailed look at this year is provided below.

Before the current 2013/2014 season, maximum prices were highest when water availability (and outlook) was low peaking in 2009/2010 with that year and the preceding year being zero allocation years, followed by 24%, than another zero allocation in 2006/2007. As stored water both on-farm and at Copeton became scarce, the price per megalitre peaked at \$330/ML in 2009/2010, when the total volume of traded water (1990ML) was nearly the lowest on record. Suggesting the market worked on a simple supply and demand scenario with the largest volume of tradable water in any year being 10,000 ML.

The summary of data from 2004-2014 is highlighted below in Figure 1 or the complete summary data presented in Table 1. All volumes and prices are adjusted by removing false transactions i.e. zero and one dollar trades. The corrected average is determined using the total volume of water divided by the total value as opposed to the average being the average of the price paid/ML, as a means to correct for small repeatable trades. The corrected number of trades is the total number of trades minus false transactions.

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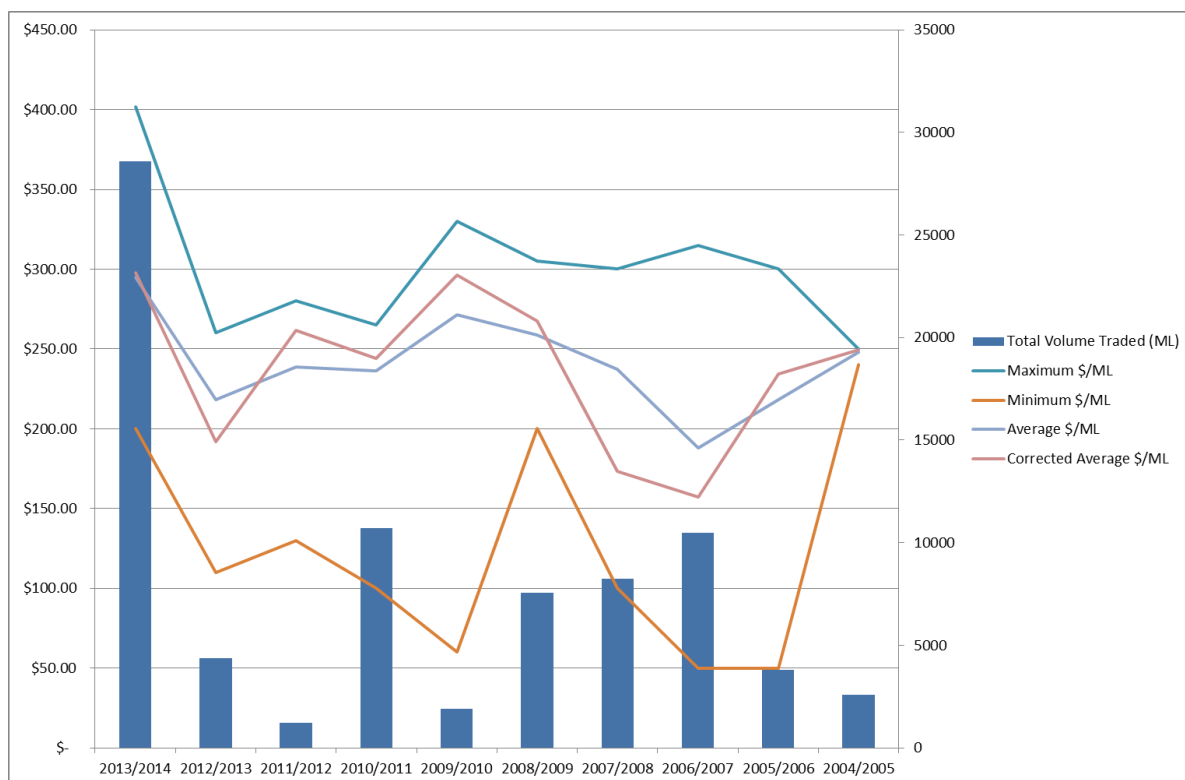


Figure 1: Summary of price per mega litre over time

Table 1: Summary of water trade data

Year	Total No. Trades	Corrected No. Trades	Total Volume Traded (ML)	Total Value \$	Maximum \$/ML	Minimum \$/ML	Average \$/ML	Corrected Average \$/ML
2013/2014	210	147	28599	\$ 8,516,678.80	\$ 401.50	\$ 200.00	\$ 295.07	\$ 297.80
2012/2013	100	41	4363	\$ 837,490.00	\$ 260.00	\$ 110.00	\$ 218.37	\$ 191.95
2011/2012	44	7	1227	\$ 321,010.00	\$ 280.00	\$ 130.00	\$ 238.57	\$ 261.62
2010/2011	74	38	10720	\$ 2,614,508.00	\$ 265.00	\$ 100.00	\$ 236.45	\$ 243.90
2009/2010	44	18	1920	\$ 569,114.00	\$ 330.00	\$ 60.00	\$ 271.67	\$ 296.40
2008/2009	75	32	7556	\$ 2,021,571.00	\$ 305.00	\$ 200.00	\$ 258.59	\$ 267.55
2007/2008	63	17	8224	\$ 1,426,560.00	\$ 300.00	\$ 100.00	\$ 237.06	\$ 173.46
2006/2007	97	41	10492	\$ 1,651,022.50	\$ 315.00	\$ 50.00	\$ 188.05	\$ 157.36
2005/2006	68	25	3787	\$ 887,706.67	\$ 300.00	\$ 50.00	\$ 218.37	\$ 234.43
2004/2005	19	6	2587	\$ 645,775.00	\$ 250.00	\$ 240.00	\$ 248.00	\$ 249.67

Analysis and Comparison of 2013-2014 (Year-to-Date)

Analysis of the current season resulted in a number of new records for the Gwydir market. The maximum price per megalitre rose to \$401.50 (and was not a one-off transaction, although the NOW register does not reflect this) and the total volume of water traded was nearly three times the previous total equalling 28,599 ML (as of 10 March 2014). The total volume of water traded between irrigators was around 15,000 ML with the Commonwealth trading 10,000ML and the NSW RiverBank, who regular trade some allocation selling what they could within their account limits.

However because of the sheer volume of water traded this year, a comparison of averages in 2013/2014 and 2009/2010 does not indicated a statistical difference with the averages consistent at just below \$300/ML. In short the market peaked 21% higher than the previous

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highest price per megalitre and water availability was greater in volume although limited to a few number of account holders the largest being the Commonwealth Environmental Water Holder.

In fact our analysis of account holdings prior to the Commonwealth trade in January revealed as of 8 January 2014, Copeton Dam was at 49% of total capacity, less than a third of this was actually available for use by irrigators (and orders in the system reduce this portion by another 20GL) the rest was tied up as either essential supplies or losses and environmental water. The following pie chart highlights the split between users:

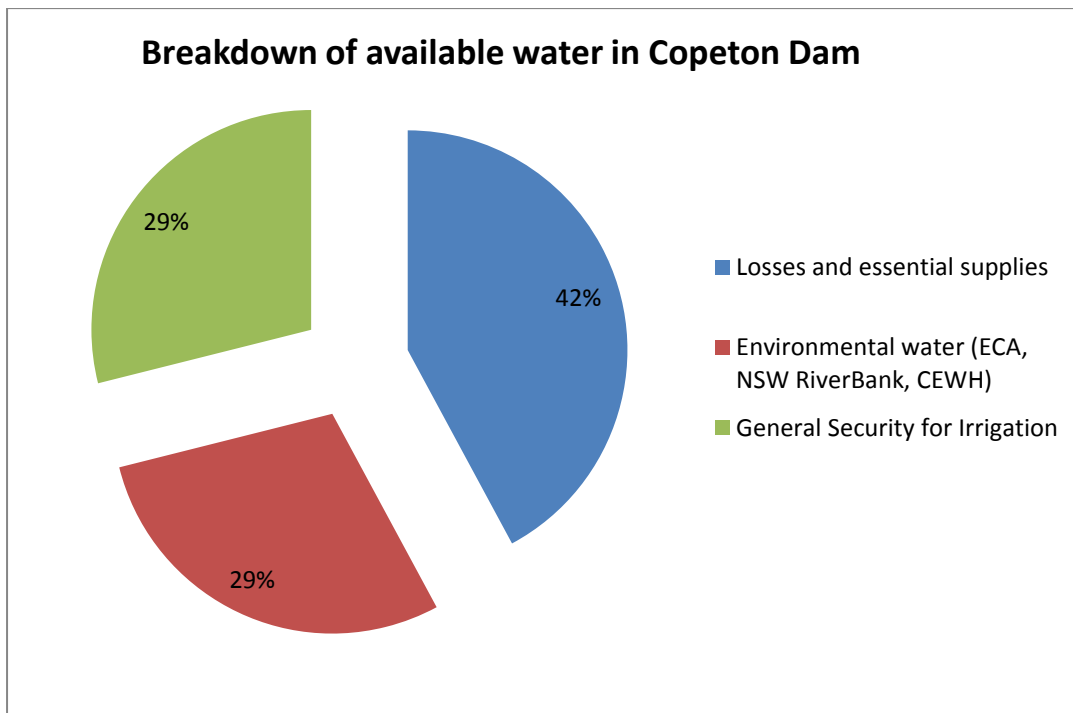


Figure 2: Breakdown of Available Water in Copeton Dam

The Commonwealth Environmental Water Holder (CEWH) however, had at the time 102,000 ML General Security allocation (from 89,525 ML entitlement) and NSW RiverBank had an additional 3,000ML available (from 17,092 ML entitlement) for temporary trade both accounts are subject to annual account limits which together equates to 10,000 ML that cannot be accessed this water year.

A closer look at this year's water market can be seen in Figure 3 with the two red arrows indicating the period when the Commonwealth Water Holder traded the 10,000ML. This graph has been adjusted for known trades that were above \$300/ML prior to the Commonwealth announcement, however anecdotal evidence suggested that there were many more trades above this threshold.

What the graph does highlight is that prices were already peaking prior to the Commonwealth announcement and the total volume traded was already greater than

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previous years. The graph also highlights that the price per megalitre has been unstable and highly variable since January 2014, with a minor decline to around the lower \$300/ML. The moving average highlights the peaks in the market, which coincide with key decision making times for the seasons cotton crop; pre-planting in October, early December when initial water-use had exceeded expectations, early January following extreme weather and then with Commonwealth trade.

The Commonwealth trade cannot be attributed to a 'price shock' as major price peaks had already occurred throughout the season. Price records were set not because the Commonwealth entered the market but that there was extreme demand from the vast majority of irrigators in response to seasonal conditions (our survey in early January informed that 60% of respondents were short water with requirements estimated at 42,000ML). In reality the Commonwealth opportunity provided an additional 10,000ML and made the market transactions more transparent.

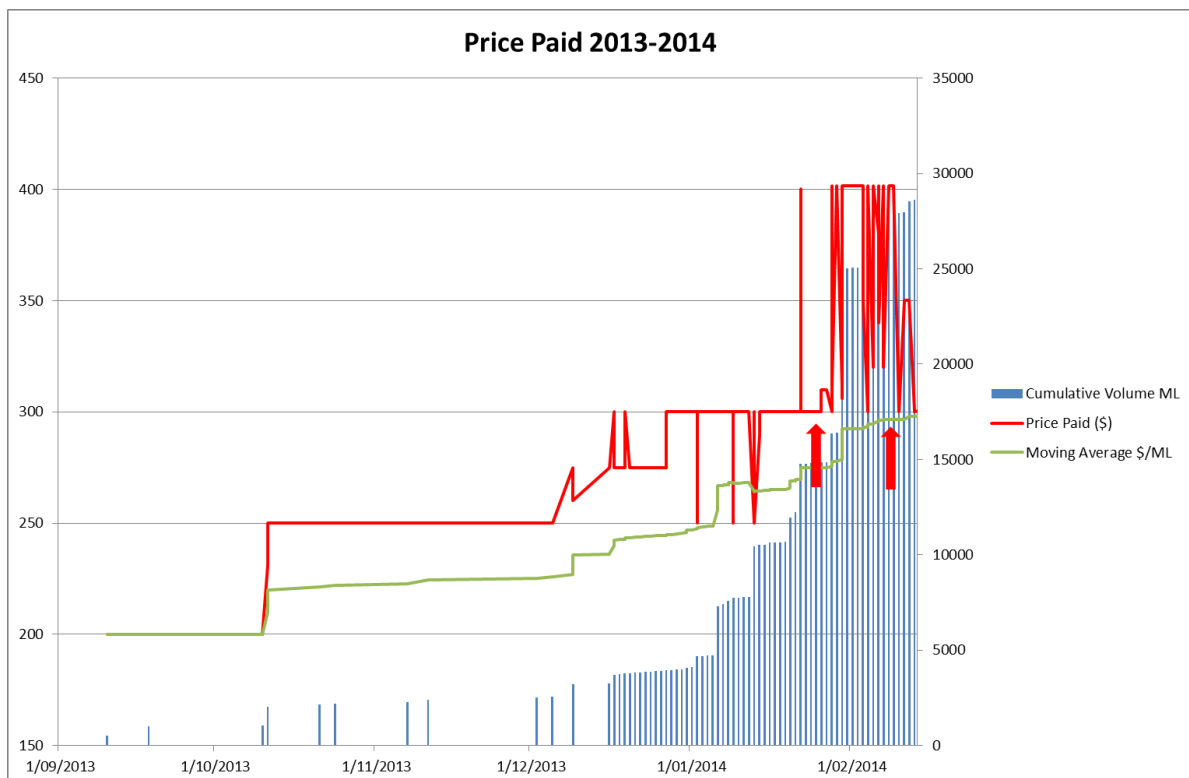


Figure 3: Price and volume for 2013/2014 with adjustments to register

Summary of Commonwealth Trade:

The Commonwealth Trade opportunity resulted in 16 bids being accepted out of 51 eligible bids received. Anecdotal evidence suggests additional bids were received via a commercial agent but were rejected as they were lodged late. Based on the number of unfulfilled bids and with many of these around \$300/ML (with majority above \$250/ML), and the continued request for water post the announcement, suggests to the GVIA that demand remained well

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above the allocated trade amount and the CEWH could have benefited further by allocating additional water to the process.

The CEWH announced that 10,000ML was traded for total revenue of \$3.217M for an average price of \$321.70/ML (average of actual data indicates \$328.68/ML). All trades were posted on the NSW Register, with two trades being progressed under a different WAL.

Table 2: Summary data of Commonwealth Water Trades

Trade	Volume ML	Price/ML \$	Total Cost of transaction \$
1	500	311	155500
2	500	330	165000
3	350	306	107100
4	500	340	170000
5	1000	312	312000
6	750	315	236250
7	500	341	170500
8	250	320	80000
9	1000	306	306000
10	500	321	160500
11	250	401.5	100375
12	400	350	140000
13	250	341	85250
14	750	320	240000
15	1500	321	481500
16	1000	307	307000
Total	10000		\$3,216,975

NSW Riverbank also traded this year in two stages, prior to Christmas and also around the CEWH trade period. Details on the NSW trade are less accurate as we do not have their WAL information but they traded between 3,000-5,000 ML (up to their allowable annual use limit) and traded these at or below \$300/ML (requesting no more than \$300/ML despite the market price being well above that).

NSW Riverbank regularly trades to cover their fees and charges and uses a combination of commercial agents. The GVIA remains concerned about the process used by these agents as less than transparent, in terms of announcing their intentions and actions. They also appear to trade independently of the environmental needs as they trade to maintain a neutral cost benefit to the NSW Government.

Feedback:

Below is a summary of feedback as collected from members and gathered during the GVIA committee's discussion with David Papps on 5 February 2014.

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- Actual implementation timeline more agreeable than the proposed. The timeline and timeliness of the trade is critical for in-season trading and the success of the trade event.
- The process was simple that could be further simplified by “registering” or recording ownership details with the office for due diligence purposes and hence, reducing the timeframe for trades and allowing for streamlined, multiple, in-season trades.
- Easy and simple, straightforward form.
- Communication was timely.
- Decision to manage in-house was welcomed and preferred to using commercial agents. The GVIA have had complaints over commercial processes including fees and direct deals with clients instead of tendering.
- Consideration to allow for the opportunity to allocate additional water if demand existed rather than initiating the decision making process again.
- Communication with stakeholders to ensure transparency but also help to thoroughly assess demand and timing to ensure the opportunity is beneficial to all and avoid market shocks.

Report ends...

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