

Gwydir Valley Irrigators Association Inc.

458 Frome St, PO Box 1451, Moree NSW 2400

Submission on the ‘Integrated water delivery document for the Water Dependant Environmental Assets of the Gwydir River’ by Barma Water Resource Consulting Pty Ltd (2011)

**To the Department of Sustainability, Environment, Water,
Population and Communities**

Report by Gwydir Valley Irrigators Association

February 2012

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Introduction

The Gwydir Valley Irrigators Association (GVIA) represents in excess of 250 irrigators in the Gwydir Valley of NSW, centred on the town of Moree, NSW.

The 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.

GVIA welcomes the opportunity to make this submission to the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) on the draft Integrated Water Delivery document for the Water Dependant Environmental Assets of the Gwydir River (the document).

GVIA in preparing this submission acknowledges that the SEWPaC are being proactive in undertaking this investigation into identifying environmental assets and possible water delivery targets within the Gwydir Valley. In its current form the document is a solid starting point to continue to develop and establish a more thorough understanding of environmental watering requirements in the Gwydir. However, the GVIA do have a number of recommendations for consideration by the Department and the Commonwealth Environmental Water Office.

The GVIA request that this be considered in addition to the letter delivered to Ms. Sharon Koh from the GVIA on Friday, December 9, 2011 which is attached as an appendix.

General Comments and Recommendations

The draft document is comprehensive in nature and a solid starting point to continue to develop and establish a more thorough understanding of environmental watering requirements in the Gwydir.

The GVIA believes that the SEWPaC should further utilise local knowledge in developing the next version of this document. We will continue to advocate for the SEWPaC to consider establishing a local advisory group, representing a variety of community members (not only irrigators but a selection of river users) to review plans and seek advice from. This group would help determine assets and to ground-truth science and personal communication utilised as fact. GVIA also believes that a wider stakeholder group would ensure a variety of interests are considered, evaluated and incorporated into future delivery plans and that there is community ownership in the process and the outcomes achieved.

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The three-tier scale system for water objectives is essential in developing appropriate management strategies for assets and helps to further highlight the complex nature of ecological management within a natural system. This system is logical and when applied to the differing climatic scenarios, further continues to build the conceptual understanding of the valley.

However, it is not well presented within the document and results in the information being repetitive and overly complicated. It should be considered that there is a description and illustration conceptually on how the three scales are interconnected and how they potentially influence each other. The objectives for each tier should be better represented, so that a reader does not get confused with each of the objectives being presented.

The GVIA also strongly believe that the document needs to further explore the constraints that have an ability to affect the ecological objectives outlined at each scale in each of the climate scenarios. These constraints are not just delivery constraints but also natural, physical, practical and to an extent policy –based constraints, that could limit the effectiveness of environmental water delivery. It must also be acknowledged that some of these constraints can also be seen as opportunities to achieve multiple benefits by using water delivery to help assist in managing other catchment management issues within the valley.

Conceptualisation of the Gwydir Valley

The draft document appears to focus strongly on depicting the irrigation industry as having the only influence on water availability and wetland health within the Gwydir. It must be recognised that there are a number of contributing factors, climatic factors, human development and the inherent unique nature that is the Gwydir valley, that have resulted in the river and valley being what it is today.

In response the GVIA offers the following discussion points for consideration to assist in further developing the conceptual representation of the Gwydir valley within the document.

The Gwydir wetlands

As explained within the document, the Gwydir River is an inland terminal river network that is distributary in nature and as the river system becomes a series of branching channels that distribute their flows across large areas, known as wetlands, especially during flood times. However, the system is highly modified and the core wetland areas do not exist as they did prior to human development. It is generally accepted that the estimated historical wetland areas were 161,000 Ha but are now recorded at 84,000 Ha.

Firstly, there needs to be better acknowledgement within the document that the area of core wetland areas (both the Gingham and Gwydir areas) have reduced by an estimated 76,216 Ha (DECCW, 2011) but that they have also reduced for a number

of reasons including, grazing development but also cropping, for both dry land and irrigation operations.

Secondly, realisation that the Semi-permanent wetland is approximately 6,829 Ha and the floodplain wetland 77,949 Ha (DECCW, 2011) not the 1,000 km² as reported and that there is no real capacity to increase this area as the majority of the Gwydir wetlands are privately owned. Only four small parcels of land within the Gwydir Wetlands, are Ramsar sites that were listed in 2008 under the Ramsar Convention on Wetlands. Only one of these is owned by government. It is the Ramsar areas only that have strict conditions of management and areas listed must be maintained at their status and integrity as recorded at their time of listing. It must be acknowledged that private landholders have a property right to manage their land according to the appropriate laws and legislations as they feel fit.

It must therefore be recognised that as the core area has been reduced, indefinitely with such a limited capacity to increase this area that the water requirement that was historically needed to maintain the area has reduced. Less water is now required to maintain the wetland area of 84,000 Ha, which is estimated by GVIA to be 339 GL/Yr (using 4ML/Ha as an average take of water). This is a reduction of 305 GL/Yr from historical estimates, which almost equates to current total watercourse diversions prior to any programs to obtain environmental water. Therefore, some might suggest that the wetlands would have sufficient water to survive without the requirement for productive water to be used for the wetland environment but that the real objective with water recovery might actually be to further modify the natural state, control the timing of this water delivery rather than utilisation of natural cycles.

Flow regime

The document did cover the fact that the Gwydir valley is unique in the sense that it has a higher current end-of-system flow than pre-development records but it alluded that this was due mainly because of modelling and lack of data. Pre-development scenarios are often miss-represented and miss-interpreted, as it is not pre-European conditions but rather what the river may run like, if irrigation development was removed from the scenario that is it's the river layout in its current form minus Copeton Dam and extractions for irrigation. This scenario is widely different from what a pre-European scenario would be for the following reason.

The Gwydir is unique in that the end-of-system flow is subsequently higher due to modification of system since development. The reasons being;

- channelization to improve stock and domestic flows;
- regulation following the construction of Copeton Dam in 1976 and water policies since the dam's construction for irrigation, stock and domestic and town utilities;
- further channelization for water delivery requirements; and
- riparian and catchment-wide land use change.

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Each action must be acknowledged as having a role in developing the river system present today, developed in a way to support our way of life, rather than a focus on only irrigation extraction.

Albeit the GVIA acknowledges that many of the above reasons are difficult to capture in flow regime analysis and significantly, the NSW Government developed Integrated Quality and Quantity Model (IQQM) is inherently flawed as it does not represent land-use change nor does it appropriately incorporate significant changes channel structure overtime in running pre-development scenarios. The GVIA have been acutely aware of IQQM's shortcomings and has held reservations regarding its conceptualising the Gwydir Valley and it would be in SEWPaC's interest to also be familiar with these issues.

Water policy

GVIA believes that the current Water Sharing Plan for the Gwydir more than adequately shares water resources between users and the environment and that it should be assessed before implementing another plan of use. Currently, the plan on average has more than 73% of water flow for environmental purposes (including water sharing plan rules and additional water purchased for the environment since 2008). The Water Sharing Plan for the Gwydir Regulated Water Source should be reviewed before implementing another plan of use.

The majority of water within the Gwydir Valley is managed through the establishment of water sharing plans or under conditions within the Water Act 1912. The Gwydir is characterised by the following water sharing plans:

- Gwydir River Regulated Water Source;
- Rocky Creek, Cobbadah, Upper Horton and Lower Horton Water Source;
- Lower Gwydir Groundwater Source;
- NSW Great Artesian Basin Shallow Groundwater Water Source;
- NSW Murray-Darling Basin Fractured Rock Groundwater Water Source;
- NSW Murray-Darling Basin Porous Rock Groundwater Water Source; and
- NSW Great Artesian Basin Groundwater Sources.

The NSW Office of Water have recently closed public exhibition on the draft water sharing plan for the remaining water sources, the Gwydir Unregulated Water Source and Lower Gwydir Alluvial Water Sources. This draft, once gazetted will be the final water sharing plan for the Gwydir Valley.

It is important to note that the WSP for the Gwydir Regulated River has a plan limit of 392,000 ML/year with a baseline Cap limit at 415,000 ML/year, not 388,000 ML/yr as indicated within the draft document.

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Under the current water sharing plan arrangements, environmental water as provided to the Gwydir Wetlands through WSP negotiations and voluntary entitlement provisions, aim to ensure the core wetland areas are maintained and/or improved if possible. Importantly, in the Gwydir supplementary water is shared equally between the environment and water users.

The Management of the Gwydir Wetlands is detailed within the Gwydir Wetlands Adaptive Environmental Management Plan (DECCW, 2011). The Gwydir AEMP details the framework for understanding and restoring ecological balance within the wetlands but also how to best utilise the 45,000ML of Environmental Contingency Allowance (ECA), created to sustain the core wetland areas (which has a greater carryover limit than regulated water providing the committee access to 200% of their entitlement). It is this ECA water that was firstly voluntarily established by irrigators within the Gwydir for environmental purposes to sustain bird breeding events and was then extended through the water sharing plan negotiations.

As identified early, the GVIA believe that the water sharing plan alone should provide significant water resources to the wetland areas as they currently exist.

Asset Identification

GVIA believe that a small shortcoming of the water delivery document and environmental planning process as a whole is that only water-dependant assets or assets perceived to be dying due to lack of water are considered appropriate for identification and management. The Gwydir has an array of environmental assets, some that require variable flow regimes, rather than just volumes of water and other assets are vulnerable due to cold water pollution. If the SEWPaC truly aims to deliver an integrated water delivery document, then a full suite of environmental assets should be identified and considered for management.

The identification and assessment of the wetland areas within the report appears consistent with our knowledge and consistent with the implementation program of the Gwydir ECA Operational Advisory Committee. However, as stated above, it is important to recognise that the majority of the Gwydir wetlands are privately owned and only four small parcels of land within the Gwydir Wetlands are Ramsar sites that were listed in 2008 under the Ramsar Convention on Wetlands.

Considering that GVIA suggests that the asset description needs to be expanded to include a proportion of private owned land. This would help to better understand the practical limitations in delivering water to some of these areas but also to better recognise that for most assets, private landholders are the custodians of these areas.

We would also recommend further prioritisation of assets based on a matrix of ecological outcomes, constraints and a measure of water-use efficiency and/or effectiveness, so that water is used to achieve the best outcome in the most efficient

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manner. Although the document lists the ways in which an asset can be watered, it falls short in highlighting that during certain periods of time for example during dry sequences, it may be ineffective to attempt to water certain areas even if they have ecological significance.

Outcomes and Monitoring

It is very positive to see the inclusion of objectives to be achieved through delivery of environmental water but the document needs to expand further to consider outcomes, both short term and long-term.

The overall concept of the strategic watering aims appears logical and that each objective is also varied for climatic scenarios. It is important that extreme dry and to a degree, dry conditions cannot be managed with environmental water and that this period provides a natural drying period as recommended for the Gwydir wetland areas. However the SEWPaC should also consider that in extreme wet periods, water objectives are easily met through water sharing plan rules and the November/December 2011 and the following January 2012 floods in the Gwydir is a perfect example of this plan meeting its environmental objectives and therefore, those outlined within the draft document.

However, as indicated within the asset identification section, the document does fall short by not fully assessing the constraints and limitations to achieve said objectives. For example:

- Most of the watering scenarios will contribute to over-bank flow and aim to extend high flows but there is no recognition that these events will have to have a degree of third-party impacts.
- Extreme wet periods or high inflows cannot be managed nor can they be replicated by environmental water, just as when in extreme dry periods, there is limit capacity to influence environmental outcomes for all assets.

As a result, the asset ecological objectives should be expanded to include an assessment that indicates the ability for the application and use of environmental water to influence the desired objective. Furthermore, natural resource management constraints (and therefore opportunities as well) could also be considered in this assessment, so that effectiveness becomes an underlying principle in environmental water management and the opportunities for multiple environmental benefits are realized. For example, the use of a baseflow objective to limit lippia will only be effective if grazing is also managed in the area, without this key activity occurring simultaneously, the watering objective will be ineffective.

The GVIA also believes that monitoring should have a greater influence in the environmental planning and delivery model. GVIA believe that at a minimum

measurement of environmental water should be consistent with the national water metering standards where possible.

Monitoring should also include significant evaluation and reporting focussing on evaluation questions, processes to assess their answers and how to incorporate those lessons learnt. A wider stakeholder group should also be utilised for this process for example the community, landholders, government agencies and industry.

Conclusion

GVIA would like to thank the SEWPaC for the opportunity to make a submission on the draft Integrated Water Delivery document for the Water Dependant Environmental Assets of the Gwydir River.

We believe that the document is a solid starting point to continue to develop and establish a more thorough understanding of environmental watering requirements in the Gwydir. However, the GVIA have made a number of recommendations for consideration. In general the GVIA would like the SEWPaC to consider:

- Improving the use and application of local knowledge;
- Expanding the conceptual understanding of the Gwydir Valley;
- Streamlining the three-tier scale of objectives;
- Expanding the understanding and application of constraints to water delivery objectives;
- Including environmental watering outcomes, as well as objectives;
- Including effectiveness as a measure of success for environmental water delivery.

The GVIA are looking forward to continue working with the SEWPaC and the Commonwealth Environmental Water Office to further develop integrated water delivery for the Gwydir valley.

References:

1. DECCW (2011): Gwydir Wetlands Adaptive Environmental Management Plan, Department of Environmental, Climate Change and Water

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9 December 2011

Ms Sharon Koh
Environmental Water Branch
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Re: Integrated water delivery document for the Water Dependant Assets of the Gwydir River

Dear Sharon

The Gwydir Valley Irrigators Association (GVIA) welcomes the opportunity to make comments on the draft 'Integrated water delivery document for the Water Dependant Assets of the Gwydir River' prepared by Barma Water Resource Consulting.

As discussed, due to timing constraints and the fact that we received this report after delivering papers for our most recent committee meeting, the GVIA committee members have not had the opportunity to review this document. We would like to reserve the opportunity to prepare a formal submission on this report following our next committee meeting on Wednesday, 21st December.

The GVIA supports the Department's proactive investigation into identifying environmental assets and possible water delivery targets within the Gwydir Valley and we look forward to continue working with the Department and the NSW Government, to develop the Gwydir environmental watering plan.

At this stage we do not have any comments regarding the assets identified within the report. However we wish to make the following points for the Department to consider in the absence of a formal submission:

- Remove references to objectives and information presented in the Murray Darling Basin Authority's Guide to the Proposed Basin Plan as this document had little acceptance in the scientific community and is now redundant, having been recently replaced by the Draft Murray Darling Basin Plan.
- Remove the reference to the 'old' Border Rivers-Gwydir Catchment Management Authority's (BRG CMA) Catchment Action Plan, as it is unlikely that such targets will exist following the review of their plan. The BRG CMA would also be a great source of potential assets, as they have recently completed substantial community engagement on this issue.

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- Consider outlining all the constraints within the system to delivering water to the identified assets; physical channel constraints and private owned land constraints. In particular, areas of private land should be highlighted as a percentage of wetland area in addition to noting the channel constraints to deliver water without third-party impacts.
- Consider highlighting the ability for environmental water to influence the desired outcome by acknowledging the limitations to the use and application of environmental water and land management (natural resource management) constraints within the asset areas. There is no capacity for environmental water to influence outcomes in extreme wet periods as these events will always occur naturally, as evident by our recent high level flood. As there is also limited capacity for environmental water to effectively achieve real outcomes without significant land management issues being addressed. For example, water delivery for lippia control will be ineffective without the simultaneous implementation of a grazing management strategy in the area.
- Remove any reference to the policy to restore any assets to the 1996 extent as indicated on page 76. This policy is not in line with the Gwydir Regulated Water Sharing Plan nor with RAMSAR conditions, which state that the extent and condition must be maintained as per the year the asset was registered, which is 1998 not 1996. It is out of the scope of the Department to “re-create” areas but rather should focus on maintaining extent and improving condition of the remaining areas.

The GVIA also suggests that the Department significantly improve on the use of local knowledge via establishing a local advisory group, representing a variety of community members (not only irrigators but a selection of river users). This group would help determine assets and to ground-truth science and personal communication utilised as fact within the report. GVIA also believes that a wider stakeholder group would ensure a variety of interests are considered, evaluated and incorporated into future delivery plans and that there is community ownership in the process and the outcomes achieved.

As mentioned, the GVIA will forward this report to our own committee to provide a broader local perspective and we hope to ground-truth some claims within the report but we strongly feel that this opportunity should also be expanded to other stakeholder groups.

Please do not hesitate to contact me regarding any of the comments presented above.

We will have a more formal submission to the Department in early January 2012.

Kind regards



Zara Lowien
Executive Officer

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cc: Ian Robinson, Ian.Robinson@environment.gov.au

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