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## **Submission**

### **Review of Gwydir Valley Floodplain Management Plan**

#### **Introduction**

The Inland Rivers Network (IRN) is a coalition of environment groups and individuals that has been advocating for healthy rivers, wetlands and groundwater in the Murray-Darling Basin since 1991.

IRN welcomes the opportunity to engage in the process of reviewing the Gwydir Valley Floodplain Management Plan (Gwydir FMP).

IRN has been closely engaged in the process of regulating floodplain harvesting in the NSW Northern Basin. The relationship between Floodplain Management Plans and Floodplain Harvesting assessment and licencing is very close, as identified in the NSW Government Healthy Floodplain Project.

Two key outstanding issues need addressing in the Gwydir FMP review:

1. The designated floodplain was expanded to include all floodplain harvesting works. This then provided eligibility for these works under the assessment and licencing process for floodplain harvesting. This expansion of the designated floodplain was preemptive, has serious implications for unapproved works and detracts from opportunities for improved ecological outcomes in the Gwydir Valley
2. A process for identifying and removing illegal floodplain works is not outlined in the Gwydir FMP

We consider the process of reviewing the Gwydir FMP is inadequate and a significant update of the Gwydir FMP is needed to meet state and federal legislative requirements.

## **Key Issues**

### **1. Exhibition of Gwydir FMP Review**

IRN expresses concern with the adequacy of NSW government consultation process in advertising the public exhibition of the Gwydir FMP, an important document among a number as NSW attempts to bring floodplain water use and management within a sustainable policy framework.

Whilst DPIE water relations team posted emails about its exhibition there was no direct link from this notice to actual information about the plan and its critical explanatory supporting documents. Likewise, the NSW government “Have your Say” notice was linked to the limited information about the review on the DPIE-Water in NSW webpage.

Further, no public information seems readily available to adequately explain the broader context of how the Gwydir FMP fits within the Murray Darling Basin Plan. The MDBP has not at yet captured the use and management of NSW floodplain harvesting within its strategic intent to manage basin waters sustainably.

We do not consider this approach to exhibition enables informed public comment. This approach is inconsistent with NSW government commitment to improved transparency and community engagement about NSW water planning.

### **2. Linkage between Gwydir FMP and Gwydir Water Sharing Plans**

We understand that the review of the Gwydir FMP is being undertaken under Section 43 of the *Water Management Act 2000* and that the Natural Resources Commission will undertake an audit of the Gwydir FMP later in the year.

Within the context of government commitment to a transparent licencing regime of water take on NSW floodplains, there is need for demonstration of the practical linkage of the Gwydir FMP with any amended rules within affected water sharing plans.

The growth in floodplain harvesting has been recognized as a high risk to water availability in the Gwydir Valley. Whilst NRAR has been active in its attempts to ensure compliance within the current licencing arrangements<sup>1</sup>, amendments to rules in Gwydir WSPs to take account of licenced floodplain harvested waters will require additional monitoring for compliance with annual permitted take.

A fit for purpose Gwydir FMP is critical to ensure the rules achieve the necessary compliance with the long-term annual diversion limit for the Gwydir SDL resource unit.

It is unclear whether the scope of both the review and audit will take a comprehensive review of the Gwydir FMP to ensure its capacity to meet the requirements of all water laws and the Murray-Darling Basin Plan.

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<sup>1</sup> <https://www.abc.net.au/news/2021-05-14/nsw-irrigators-face-water-theft-charges/100137388>

## **Response to issues targeted in this review process**

### **1. Is the floodplain management plan adequate and appropriate for ensuring the effective implementation of the principles of Section 5 of the *Water Management Act 2000*?**

We do not feel that the Gwydir FMP is adequate and appropriate in meeting the principles of the WM Act for the following reasons:

**a.** The principles of the WM Act provide a set of general provisions to protect and restore connected water sources with specific provisions for different situations including for floodplain management and controlled activities. We consider the general provisions are core to water management under the Act that provide meaningful context to the specific provisions.

The Gwydir FMP appears to have limited its scope to the latter specific provisions. This creates biased management objectives and if linked to WSP could have a “cumulative” regulatory effect that is contrary to the core principles of the WM Act.

**b.** There seems a fundamental rationale behind the management direction set by the Gwydir FMP that the Gwydir Valley is a closed system. It is unclear what science supports this but there is reference to a 1981 report.

We feel that hydrological modelling validated through a range of new technologies including shared agency spatial data would inform an improved and revised Gwydir FMP to better reflect the importance of floodplains within the unique inland NSW waterways. Greater consideration is necessary of the complex connective pathways that operate during floods and ensure connecting downstream flows.

Downstream connectivity is a contentious issue and of significant public interest. It needs better account in a revised Gwydir FMP to facilitate improved downstream connectivity and assist restoration of public confidence in NSW water management.

**c.** Determining the exact boundary of the Gwydir floodplain seems complex. Administrative alignment with cadastral, policies or WSPs boundaries may be “convenient” but this will not assure the best ecological outcomes consistent with NSW and Commonwealth water laws.

Likewise reliance on information and rules carried over from historic gazetted smaller subfloodplains will not provide a fit for purpose Gwydir FMP. Alignment of management boundaries with registers and floodplain harvesting structures may fail to identify critical flood work structures including those illegal or unapproved.

The boundary with the Namoi Valley seems especially complex. The recent heavy flooding within the Gwydir catchment may provide improved understanding of critical crossovers of floodwaters that may better inform management decision-making in a revised Gwydir FMP.

Supporting maps indicating the flood ways and inundation seem determined by the constraints of the derived management boundaries rather than the actual situation during flood.

- d.** The Gwydir FMP references the outdated NSW Floodplain Harvesting Policy 2013 and needs to be updated to take account of the changes made in the 2018 policy version.
- e.** Schedule 4 of the Gwydir FMP only seems to include approved flood works current at 30 November 2013 and needs to be updated.
- f.** Presumably information about the most recent flood path flows will inform a revised Gwydir FMP. This new flood information must be considered within the context of the ecological devastation caused by government failure over decades to properly manage illegal and/or excessive extraction of all northern basin water sources. NSW government has committed to rectify these policy and compliance failures.

The downstream benefits of improved landscape connectivity after the most recent flood must be prioritized over any damage caused to flood works that may or may not be illegal, unapproved or inappropriate. The prioritization of ecological assets in preparation of a revised Gwydir FMP will ensure a plan that makes a meaningful contribution to the effective implementation of water management principles.

- g.** It is unclear whether the models of simulated flows that inputted the hydrologic models are based on best available science. Aerial photography and satellite imagery is presumably more advanced than when the Gwydir FMP was prepared.

Sharing of any new data from agencies such as NRAR and MDBA would seem important to generate improved understanding of the cumulative impact of flood structures and how flood pathways may change over time and with flood intensity associated with a changing climate.

It is noted that the Gwydir FMP has been informed by calibrated hydrological modelling in one gauged catchment simulated across 15 ungauged catchments<sup>2</sup>. The metering rollout across the northern basin should improve modelling accuracy and should be incorporated into a revised Gwydir FMP.

The *Rural Floodplain Management Plans: Technical manual for plans developed under the Water Management Act 2000 (the Technical Manual)* that guides preparation of floodplain management plans must stay current and require consideration of any available collaborative data sharing.

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<sup>2</sup> It is noted that one of the ungauged sub-catchment includes the property mentioned in the recent media article about alleged water theft investigated by NRAR.

**h.** The omission of groundwater recharge is a very significant omission from the identification of ecological assets that must be rectified in a revised Gwydir FMP and the maps in the attached schedules. The Gwydir FMP recognizes the significant knowledge gaps in groundwater recharge and the need for review of management zones and rules as new information becomes available.<sup>3</sup>

**i.** The tardy transition process to the current WM Act has meant that some amended provisions of the Water Act 1912 have been carried over into the Gwydir FMP. For example the *Lower Gingham Watercourse Floodplain Management Plan* (adopted June 2006)<sup>4</sup>. Whilst flood studies used in this 2006 plan were revised for the Gwydir FMP, its environmental protection zone was carried directly into the Gwydir FMP.

Thus Management Zone D - special environmental protection zone only comprises the 2006 plan boundary and excludes other RAMSAR listed wetlands and sensitive ecological assets. Management Zone D must be revised to take full account of all wetland areas. It is insufficient to identify RAMSAR wetlands in a management zone that does not have as its primary intent protection of ecological assets.

**j.** Ecological assets of flood-dependent forest, flood-dependent woodlands and non-flooddependent vegetation must be identified and included in Management Zone D where required to ensure a appropriate management regime. The fragmented Gwydir floodplain landscape must ensure these important ecological assets are effectively managed as priority assets in the Gwydir FMP.

**k.** The identification of Aboriginal and cultural heritage assets is inadequate. No full and proper engagement and consultative process with First Nation people has been demonstrated in the Gwydir FMP. The Gwydir FMP relies on heritage lists to determine cultural assets.

This approach fails to take account of the significant spiritual and cultural importance to First Nation peoples of water on country and in the natural landscape. A revised Gwydir FMP needs to take proper account of Gamilaroi people's water access rights and the role of flood in the preservation of their cultural assets.

**l.** The four mapped management zones provide the management direction for the Gwydir FMP as detailed in the relevant rules and assessment criteria summary sheets. As indicated in various points above the development of these management zones appears based on outdated, inadequate static information.

This clearly indicates that the Gwydir FMP does not ensure the effective implementation of the water management principles under law that we understand as the purpose of this review process.

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<sup>3</sup> DPI Water, February 2015. *Background document to the floodplain management plan for the Gwydir Valley Floodplain 2015*. P16

<sup>4</sup> It is unclear whether the proposed amendments to access rules in the Gwydir WSP for floodplain licencing is still relying on these specific Management Zones.

When the linkage of the management zones in the Gwydir FMP to the proposed amendments to WSPs to capture floodplain water use and SDL compliance under the MDBP is considered, the Gwydir FMP will not ensure effective implementation of Commonwealth water laws and the intent of the MDBP to bring basin water extraction into sustainable levels.

Thus, IRN does not consider the Gwydir FMP to be adequate or appropriate for the effective implementation of the principles of Section 5 of the *Water Management Act 2000*.

- m.** Further to the above point, S 29 of the WM Act provides a set of core provisions for a floodplain management plan that “*must deal with the following matters—*”
- (a) identification of the existing and natural flooding regimes in the area, in terms of the frequency, duration, nature and extent of flooding,*
  - (b) the identification of the ecological benefits of flooding in the area, with particular regard to wetlands and other floodplain ecosystems and groundwater recharge,*
  - (c) the identification of existing flood works in the area and the way they are managed, their benefits in terms of the protection they give to life and property, and their ecological impacts, including cumulative impacts,*
  - (d) the risk to life and property from the effects of flooding.”*

IRN considers that the Gwydir FMP also fails to meet these core provisions under S29.

- n.** In addition to above points there seems some confusion by government as to the intent of the Gwydir FMP.

The stated purpose of the Gwydir FMP “...is to inform local landholders and the wider community about how the rural floodplain management planning approach presented in the *Rural Floodplain Management Plans: Technical manual for plans developed under the Water Management Act 2000 (the Technical Manual)* has been applied across the Gwydir Valley Floodplain.”

It is difficult to gauge how the Gwydir FMP reflects the technical manual<sup>5</sup> and whether in fact the technical manual is sufficiently robust to ensure floodplain management plans that are adequate and appropriate in ensuring effective implementation of the principles of the WM Act. (IRN has relied on the background information document that is in Plain English.)

If the Technical Manual does not generate data consistent with the objects of water laws then the floodplain management plans will be inconsistent. It is unclear whether the Technical Manual has been independently peer reviewed. Given the presumed reliance on the manual to develop the Gwydir FMP there is need to consider this document as part of this review process to ensure it is fit for purpose in guiding adequate and appropriate floodplain plans and policies.

- o.** As indicated above IRN considers the four management zones static and inconsistent with water management principles. If management zone map boundaries are not redrawn with the

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<sup>5</sup> This report is too dense for the average member of the general public interested enough to engage in consultative processes and no “plain English” document to interpret this document meaningfully seemed to be available on line.

introduction of licenced floodplain harvesting the associated WSP amendments to bring floodplain water take into the sustainable limits set by the MDBP appear meaningless.

For instance it is proposed that no new or modified water supply works be permitted in management zones B and C if they result in an increased rate of take for works located in management zones A and D.

It is difficult to understand the full effect of this proposed rule. It suggests new works in zones B and C could mean less water will reach the asset in zone D but with continued levels of take in zone D there will be a consequent increase in rate of take.

Given outdated data underpins the map boundaries and a reliance on other reforms being in place such as metering and licencing of all floodplain waters to validate any increase in rate of take it is likely that the value of the ecological asset will decline if new or modified works are considered in zones B or C. This complex situation is further compounded by the inclusion in management zone C of flood works that still require assessment and approval.

Additionally, there is implication that the relationship between new works outside zone D on assets in zone D is within Gwydir water resources that function as a “closed system”.

As stated above, this notion of a closed system fails to recognize the importance of floodwaters in achieving connectivity within a water resource area and between adjoining water resource areas. In this case the downstream townships, First Nation peoples and ecosystems that are dependent on effective connectivity.

**p.** The rules for each management zone determine the implementation of the Gwydir FMP. However the rules and assessment criteria included in summary sheets are weak and somewhat incoherent. It is unclear whether the required transition to the WM Act has been fully achieved. As indicated in various points above poorly informed management zone boundaries underpin the rules and assessment criteria.

Adherence with the assessment criteria seems based on modelling information that does not seem readily available publicly. As suggested above it is unclear what information sharing between NRAR and WaterNSW occurs. It is unclear why advertising of proposed new and amended flood works is not a requirement across all management zones to improve public transparency of flood works and approvals.

## **2. Are there issues with the plan that were identified since commencement and impact on effectiveness of implementation?**

There has been a series of matters that impact the effectiveness of the Gwydir FMP since it was adopted. Some of these matters have been raised in the above points as argument that a revision of the Gwydir FMP is urgently required if NSW government is to fulfil its commitments to the public to improve water management transparency and accountability.

The lack of data in regard to groundwater recharge areas is a significant shortfall that needs to be urgently addressed.

### **3. Are there potential amendments to the plan that should be considered?**

As mentioned in section 1 above the Gwydir FMP demonstrates a range of inadequacies and weaknesses that means it is not a fit for purpose document to support the suite of reforms happening in floodplain water use and management.

IRN urges that the Gwydir FMP be rewritten to take account of improved data and modelling capacity so as to inform redrawn management zone maps that provide genuine protection of all Gwydir ecological assets and manage NSW's valuable and unique floodplains as interconnected pathways consistent with all water laws.

For more information on this submission contact

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### **Gwydir Valley floodplain management plan review**

As an individual citizen and taxpayer with a long standing interest in water management, I submit:

recent work on

- the extent and impacts of floodplain harvesting
- changing climatic conditions highlights the timeliness of this review and the need to re-appraise water sharing rules in line with the provisions of the NSW Water Act.

The UNSW Water Research Centre's White Paper on *Water Resilience in NSW*, the *Floodplain Water harvesting in the Northern NSW. Murray-Darling Basin Report* by Slattery & Johnson, and the article on historic megadroughts (The Conversation, May 18 2021) all substantiate the need for a re-think on water management practices.

Mary White's book *Running Down* written more than twenty years ago, included documentation on the decline of the internationally significant Gwydir wetlands drawn from the experience of two local farmers who nevertheless expressed hope for improvement through developing agreement over sharing water resources.

The interaction between groundwater and surface water flows needs to be addressed as two facets of the overall water cycle in determining water sharing plans and rights to 'take' and hold water for consumptive uses. At this point in time it would be premature and prejudicial to lock in new compensable rights to floodplain harvesting.

Understanding and implementing an equitable water management framework that sustains the health of the Gwydir Valley floodplains within the larger context of the Gwydir catchment, which is itself just one of the many catchments comprising the northern basin of the Murray-Darling system, is important for all Australians.

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