

## INQUIRY INTO FLOODPLAIN HARVESTING

**Name:** Name suppressed

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## **Inquiry into Floodplain Harvesting**

**Submission by**

**9th August 2021**

I thank the NSW Upper House Select Committee on Floodplain Harvesting for this opportunity to make a submission regarding the sustainability and enforcement of floodplain harvesting in the NSW portion of the Murray-Darling Basin (MDB).

### **Personal background**

I have twenty years of first-hand experience investigating and prosecuting criminal matters within an Australian state police force. Successful prosecutions rely on adequate resourcing, the ability to gather multiple lines of evidence, and a supportive legal framework. I have also been witness to the positive behavioural changes that can result in the community, when a more proactive enforcement regime is implemented. I hold a Bachelor of Engineering, a Graduate Certificate in Environment and Climate and am midway through a Masters of Natural Resource Management. These qualifications inform my understanding of the environmental and technical aspects of floodplain harvesting. My professional policing experience form the basis of my submission points in relation to the enforcement aspects and cultivating a culture of compliance. This submission is my own opinion and is made in my capacity as a private citizen.

### **Summary**

The issuing of licences and explicitly incorporating floodplain harvesting into the regulatory environment is a positive step in ensuring the long-term economic, environmental and social sustainability of the Murray Darling Basin in NSW. However, a number of technical, regulatory and environmental factors need to be resolved prior to licences being issued:-

1. ***Floodplain harvesting is about more than just water volume.*** The impacts on ecosystems and native species need to inform the licencing process.
2. ***Accurate measurement and modelling is critical.*** Best practice measurement practices are crucial, as are calibrated and validated models which are available for public scrutiny.
3. ***Only licenced take must be taken.*** Policy guidelines and regulations are required to modify water take infrastructure to ensure that only the licenced entitlement is taken when harvesting entitlements are traded, reduced, or refused.
4. ***A culture of compliance is lacking.*** Licence conditions must be enforceable, the regulatory framework must be tight, and the regulator adequately resourced.

### **The Evidence and Recommendations**

1. *The NSW floodplain harvesting policy undermines the Native Fish Recovery Strategy.*

Notwithstanding the loss of downstream flows that harvesting entails, there are additional ecological implications. Irrigation diversion infrastructure, such as levees, channels and dams result in the large-scale loss of fish at all life stages, as they are isolated from the river system or

killed as they pass through pumping equipment<sup>1 5</sup>. Harvesting also adversely impacts upon the quality, quantity and connectivity of floodplain wetlands which are an important component of the basin ecosystems<sup>2</sup>. A further consequence is the continued saturation of wetland and floodplains rather than the natural cycle of wetting and drying<sup>3</sup>. A goal of the Native Fish Strategy (Investment Area 5) is to *Improve connectivity and remove barriers*<sup>4</sup>. Floodplain harvesting involves *reduced* connectivity and the *addition* of barriers. **The NSW Floodplain Harvesting Policy must address these ecological issues with impact assessments informing the decision whether individual licences are issued.**

## *2. Measurement and modelling issues need to be resolved first.*

The Murray Darling Basin Compliance Review noted that “NSW has a significant volume of hard to measure flows ... including floodplain harvesting<sup>5</sup>”. If floodplain harvesting occurs, **NSW should commit to adopting the Compliance Review recommendations 1 through 4.**<sup>6</sup>

No reporting exists to identify whether recovered water is actually resulting in the required environmental flows<sup>7</sup>. Over-allocation of water should be avoided as the process of water buy-backs has been marred by vehement opposition by irrigators, corruption allegations, lack of transparency and poor value for tax payers money. **Floodplain harvesting should not be authorised until data exists to determine whether existing licenced take in NSW is resulting in the legislated environmental flows.**

Existing models are failing to representing the reality. The recent investigation by the Wentworth Group of Concerned Scientists identified that actual flows are 20% below what the modelling indicates<sup>8</sup>. No one has been able to identify the source of the ‘missing water’. If it is due to floodplain harvesting this indicates the practice is unsustainable. If it is due to climate change, this indicates the sustainable diversion limits (SDLs) are set too high and need to be reduced. Likewise if assumptions regarding evaporation, evapotranspiration and aquifer recharge are too conservative, it would also indicate that SDL’s need to be reduced to account for these water

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<sup>1</sup> Koehn, J.D., Balcombe, S.R., Baumgartner, L.J. et al. 2020. ‘What is need to restore native fishes in Australia’s Murray-Darling Basin?’ *Marine and Freshwater Research (CSIRO Publishing)*. <https://doi.org/10.1071/MF20248>

<sup>2</sup> Murray Darling Basin Authority. 2020. *Native Fish Recovery Strategy: Working together for the future of native fish*. p.16

<sup>3</sup> Lintermans, M. 2007. *Fishes of the Murray-Darling Basin: An Introductory Guide*. Murray-Darling Basin Authority: Canberra ACT. p. 7

<sup>4</sup> Murray Darling Basin Authority. 2020. *Native Fish Recovery Strategy: Working together for the future of native fish*.

<sup>5</sup> Murray-Darling Basin Authority. 2017. *The Murray-Darling Basin Water Compliance Review: Containing reports by the Murray-Darling Basin Authority and the Independent Review Panel*. p.13

<sup>6</sup> Murray-Darling Basin Authority. 2017. *The Murray-Darling Basin Water Compliance Review: Containing reports by the Murray-Darling Basin Authority and the Independent Review Panel*. pp. 18-19

<sup>7</sup> Wentworth Group of Concerned Scientists. 2020. *Assessment of River Flows in the Murray-Darling Basin: Observed Versus Expected Flows under the Basin Plan 2012-2019*. Sydney

<sup>8</sup> Wentworth Group of Concerned Scientists. 2020. *Assessment of River Flows in the Murray-Darling Basin: Observed Versus Expected Flows under the Basin Plan 2012-2019*. Sydney.

losses. If it is due to water theft, it indicates that a portion of water users are not abiding by their licenced conditions and approvals, and that granting further licences will only worsen the problem. Further that the regulator is ineffective at enforcing the existing rules, let alone additional regulations. **Floodplain harvesting should not be authorised until NSW models have been refined and cross-checked against recent (past 5-10 years) flows.**

The Independent Review of the NSW Floodplain harvesting policy implementation also notes that water resource models have only been completed for two of the basins, and have not been fully documented or publicly released. Further, that the calibration or validation of the models is questionable<sup>9</sup>. This fails to achieve transparency or ensure that decisions are based on credible and robust scientific information. **NSW must fully complete, document, calibrate, validate and publicly release floodplain harvesting models for all five floodplains prior to legalising floodplain harvesting.**

3. *The policy, plan and regulations fail to set out how only licenced take will be taken.*

In relation to trade rules, the policy states<sup>10</sup>:

*Selling share components associated with a floodplain harvesting access licence may result in needing to remove or modify the associated water supply work to ensure the water sold can no longer be taken by the seller.*

In relation to take ratios for each valley, licenced takes will need to be reduced by up to 45%<sup>11</sup>. Yet there is no mention of the licencees having to remove or modify their water supply works so the unlicenced take volume can no longer be taken. There will also be occasions when entitlements need to be reduced to remain within the SDLs. This is problematic to achieve in reality. How does a water user modify their infrastructure, particularly fixed assets such as levee banks and channels *and* measure their harvest to remain within their legal limit. Further, how does the Natural Resource Access Regulator (NRAR) enforce this? The Floodplain Harvesting Action Plan, states that the NRAR will '*bring existing unapproved floodworks into compliance.*'<sup>12</sup> Yet no detail is provided as to how this will actually be achieved. This is not a trivial matter. 126 of the registration of interests or 20% of the total (634), were deemed ineligible<sup>13</sup>, implying that the works associated with these failed applications will need to be removed. These numbers also imply a culture of non-compliance.

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<sup>9</sup> Weber, T., & Claydon, G. 2019. *Independent Review of NSW Floodplain Harvesting Policy Implementation: Final Report by the Independent Reviewers.* p. 4

<sup>10</sup> NSW DPIE. 2021. *Guideline for the Implementation of the NSW Floodplain Harvesting Policy June 2021.* NSW Government. p. 17

<sup>11</sup> NSW DPIE. 2021. *Guideline for the Implementation of the NSW Floodplain Harvesting Policy June 2021.* NSW Government. pp. 8-9

<sup>12</sup> NSW DPIE. 2019. *Floodplain Harvesting Action Plan.* p.9

<sup>13</sup> Calculated from data in Table 2, ROIs received in northern inland valleys of :NSW DPIE. 2021. *Guideline for the Implementation of the NSW Floodplain Harvesting Policy June 2021.* NSW Government. p. 4

**A condition of a floodplain harvesting licence *must* be that any existing or future water supply works must be removed or modified to ensure that only the licenced take is capable of being harvested. And that if the licenced take is subsequently reduced, the licensee is liable for any costs associated with bringing their infrastructure into compliance.**

**The Water Management Act 2000 and the Water Management General Regulation 2018 should be modified to include these conditions, set timeframes for compliance, apply strict liability, articulate financial liability *and* provide penalties for non-compliance.**

4. *NSW must create a culture of compliance for water take in the Basin.* The MDB Compliance Review noted that NSW faced the greatest challenge due to the large number of licences, the volume of take, the extensive geographic area, a lack of transparency, multiple metering issues, poor compliance resourcing and the absence of a culture of compliance<sup>14</sup>. Floodplain harvesting will only amplify the issue. **NSW must fully implement recommendations 5 and 6 of the MDB compliance review prior to legalising floodplain harvesting.**

Floodplain Harvesting in NSW requires the foundations and rules to be established up front. It is not conducive to adaptive management principles.

Yours sincerely

9th August 2021.

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<sup>14</sup> Murray-Darling Basin Authority. 2017. *The Murray-Darling Basin Water Compliance Review: Containing reports by the Murray-Darling Basin Authority and the Independent Review Panel.* p.12-15.