



I N L A N D
R I V E R S
N E T W O R K

PO Box 528, PYRMONT NSW 2009
ph 0428 817 282
email inlandriversnetwork@gmail.com
web inlandriversnetwork.org
ABN 34 373 750 383

Healthy Floodplain Project
Department of Planning and Environment – Water
Locked Bag 5022
Parramatta NSW 2124
floodplain.harvesting@dpi.nsw.gov.au

Friday 8 July 2022

SUBMISSION
Barwon-Darling Floodplain Harvesting Rules

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 development of rules to manage Floodplain Harvesting (FPH) in the Barwon-Darling River system. We note that the Barwon-Darling has suffered significant ecological impacts from poor water management in the Northern Basin over many decades. This includes the world’s longest blue-green algal bloom in the early 1990s and the historic fish kills in the 2019 drought. The NSW Natural Resources Commission identified that the Barwon-Darling is suffering ecological collapse indicating an urgent need to improve water management and extraction behaviour both within the river system and within connecting upstream tributaries. The Barwon-Darling is listed as an aquatic endangered ecological community under the NSW *Fisheries Management Act 1994*.

The regulation of FPH in the Barwon-Darling is an opportunity to rectify some of the ecological damage and to improve drought resilience by protecting a range of flows, especially overbank flows and rainfall runoff. Entitlements should not be above the original estimate of 16.5 GL in the 2012 Barwon-Darling Water Sharing Plan and should be lower to mitigate past and ongoing environmental and cultural damage.

IRN does not support many elements of the NSW Government FPH Policy or its implementation. The policy prioritises individual property access to flood flows and rainfall runoff. This has been given higher consideration and investment over and above the assessment

of environmental, cultural, and social harm caused by 40 plus years of unregulated access to important flood flows. The Sustainable Diversion Limit (SDL) for the Barwon-Darling has been breached every year since the SDL came into effect in 2019, under recent audits by the Murray-Darling Basin Authority.

It is critical that water licences for cultural use and Native Title are granted in the Barwon-Darling prior to new private property rights being granted to the irrigation industry.

Key Issues with FPH regulation in Barwon-Darling

1. Uncertainty around proposed volume of entitlement
2. Initial water determination and subsequent annual water determinations should be a maximum of 1ML per unit share with flexibility to decrease the volume of share depending on antecedent conditions
3. IRN strongly rejects a rule enabling 500% carry over. No carryover and annual accounting are critical for FPH management
4. Larger entitlements must not be granted for annual accounting rules
5. No exemption for rainfall runoff – all water capture must be accounted for
6. No trading of FPH entitlements
7. No licencing of works in designated floodplain Zones A and D
8. No licencing of works until all unapproved and ‘hotspot’ works have been removed or remediated. Lagoons and natural drought refugia must not be licenced as FPH works
9. Adequate rules to protect held environmental water
10. Tributary end-of-system flows must be protected under resumption of flow access rules
11. No access to FPH until Menindee Lakes holds 450 GL and upstream forecasts are for 15 consecutive days of 30 GL/day at Wilcannia.
12. IRN supports amendment provisions to strengthen all FPH rules
13. The issuing of FPH licences in the Barwon-Darling should not precede the fulfilment of unmet Cultural Water requirements

Implementation of NSW FPH Policy

Documents provided for the community consultation process on regulating FPH in the Barwon-Darling provide conflicting information on the implementation of the NSW FPH Policy.

The Model Scenarios report states that the determination of individual entitlements will not be based on history of use.¹ Yet the Community Assistance report states that annual accounting entitlements would have to be three times larger than 5-year accounting entitlements ‘*in order to achieve the same level of historical diversions.*’² IRN strongly opposes the position to maintain an historic level of diversion. There is no justification for larger annual entitlements.

The Community Assistance report outlines four primary considerations used when developing account management rules:

- 1. managing growth above the extraction limit that has already occurred*
- 2. managing growth above the extraction limit that may occur in the future*

¹ DPE -Water May 2022. Floodplain harvesting entitlements for the Barwon-Darling unregulated river system. Model scenarios p 12

² DPE-Water May 2022. Barwon-Darling: Floodplain harvesting in water sharing plans. Report to assist community consultation p 13

3. risk the environment and downstream communities

4. flexibility for the licence holder.³

IRN considers that the key priority for the NSW Government has been to focus on flexibility for licence holders at the expense of risk to the environment and downstream communities. The modelling associated with Plan Limit, growth in use, SDLs and Base Diversion Limits (BDL) in the Barwon-Darling is not transparent and has a history of questionable fudge factors. This is evident with the recent response to the breaches of the SDL in 2020 and 2021 water years.

There has been no concerted effort to assess risk to the environment and downstream communities or remediation of damage caused by 40 plus years of unregulated FPH.

IRN strongly objects to the prioritisation given to locking in historical diversions through the accounting process. This position demonstrates the NSW Government's favouritism towards the irrigation industry at the expense of the rest of society and the environment. Given the uncertainties within and variations between data on historical diversions and model outcomes, it appears that this process could lock in some growth beyond actual historical diversions.

This prioritisation, and the Government's approach to developing specific rules to regulate floodplain harvesting, also demonstrate a lack of intention to fully comply with sections 5(3) and 9 (1) of the Water Management Act 2000.

Modelling

IRN does not support the approach taken to building the model for assessing FPH in the Barwon-Darling. There is a lack of consistency in that observed flow measurements are used from the Border Rivers and modelled flows are used from the other tributaries ie Gwydir, Namoi and Macquarie to assess entitlements. At the same time, it is proposed to use all modelled flows to assess growth in use. We also note that a new Source model is being developed for the Namoi to finalise FPH entitlements in that valley. This may have an impact on modelled Barwon-Darling inflow data.

The model has a number of high-level uncertainties including accuracy of river diversions, sparsity of records on harvested volumes, rainfall runoff where it is the dominant form of take and medium-level uncertainties including availability and error in flow data, on-farm storage capacity, crop model parameters, rainfall runoff parameters generally.

The lack of actual harvested volumes data as either rainfall runoff or from overbank flow has reduced the ability to minimise uncertainty in the model and thus the ability to verify the accuracy of the modelling.

The other significant limitation of the Barwon-Darling model is the estimation of the proportion of overbank flows that return to the river. This will require additional data collection and method development, and additional detail in the model.

There are four model scenarios presented that provide different volumes of FPH:

- Plan Limit (CAP) Scenario

³ Ibid

- Current Conditions Scenario
- Eligible Development Scenario
- Plan Limit Compliance Scenario

It is unclear from any of the documents which scenario is used to determine the volume of FPH entitlement and what that proposed volume is.

IRN strongly advises a precautionary approach to licencing FPH in the Barwon-Darling and maintains that the original estimate of 16.5 GL as used in the 2012 Water Sharing Plan should be the maximum limit of licenced entitlements so that diversions meet the SDL.

Proposed volume of FPH entitlement

It is very unclear from the information provided what volume of licenced entitlement is proposed for FPH extraction in the Barwon-Darling.

The Community Assistance report identifies that *'In the Barwon-Darling Unregulated River Water Source, the total share components for floodplain harvesting (unregulated river) access licences are estimated to be 51,320 unit shares.'*⁴

The Plan Limit Scenario identifies harvesting of 9.6 GL overbank flow, 6.8 GL exempt rainfall runoff and 1.3 GL non-exempt rainfall runoff. This is a total of 19.5 GL.

The Current Conditions Scenario identifies harvesting of 18.6 GL overbank flow, 3.8 GL exempt rainfall runoff and 2.4 GL non-exempt rainfall runoff. This is a total of 24.8 GL.

The Eligible Development Scenario is not provided.

The Plan Limit Compliance Scenario identifies harvesting of 17.7 GL overbank flow, 4.1 GL exempt rain-fall runoff and 2.1 GL non-exempt rainfall runoff. This is a total of 23.9 GL

There is no clear statement about which model scenario will be used to determine licence entitlements. There are serious large discrepancies in the information provided.

IRN strongly opposes the FPH Policy to exempt some volumes of rainfall runoff from the licensing regulation. This equates to free, unaccounted water take and is a gift to the irrigation industry at the cost of environmental, cultural, and social needs. This policy exemption is particularly concerning with the high level of uncertainty surrounding data on rainfall runoff in the model.

IRN maintains that the licensed entitlement, including all rainfall runoff capture, should not be more than the initial estimate of FPH extraction in the 2012 Barwon-Darling Water Sharing Plan (16.5 GL).

⁴ Ibid p 11

Proposed Accounting Rules

1. 5-year accounting

IRN strongly objects to the proposed 500% carry-over rule. The ability to divert this volume of entitlement from the one flood event is likely to cause significant impacts on the environment, cultural values and downstream communities. This includes loss of important groundwater recharge, loss of inundation of floodplain wetlands such as billabongs and other drought refugia, impact on floodplain specialist native fish breeding opportunities and loss of floodplain grazing opportunities.

The fact that there is no current information available on return flows points to the need for caution and conservative accounting rules.

2. 1-year accounting

IRN strongly supports that no carryover is provided to FPH entitlements. We contest the argument that 1-year accounting will result in larger entitlements; this is purely a construct of the current implementation focus. The argument that trade of these could cause a growth in use reinforces our argument in the next submission point. Any growth in use will be caused by the Government's failure to properly manage and constrain use. Stronger constraints are needed regardless of accounting period. There is no justification for 1-year accounting to provide a much higher volume of entitlement.

Applying historical levels of diversions based on poor and uncertain models is a key failure in the implementation of FPH policy.

3. Trade

IRN strongly opposes any trade of FPH licences. The possibility that this could cause a growth in use by trading to areas with a higher frequency flow rate or with more reliable access to water on the floodplain is a strong argument against any trade. This has already happened in some reaches with other forms of licence. When trading of other access licences was permitted all of the licences that used to be in and near Walgett weir pool were moved to near Mungindi resulting in less flow in all of the intervening reach of the Barwon, at the expense of the ecosystems in that reach. Upstream movement of other licences, or movement into any other locations with greater ease of access to local or overbank flows should not be possible. Schedule 3 of the *Basin Plan 2012* establishes the Basin water market and trading objectives and principles. Free trade of surface water is required with several exceptions. These include when the environment may be harmed. IRN considers that trade of FPH licences will harm the environment and should not be permitted under new regulation.

4. Available Water Determinations

IRN supports that an initial available water determination for floodplain harvesting (unregulated river) access licences in the Barwon-Darling Unregulated River Water Source of 1 ML per unit share or less depending on the final volume of entitlement across the Valley and on antecedent conditions and whether the any extraction limits are still being exceeded.

IRN supports that the available water determination rules for floodplain harvesting (unregulated river) access licences in the Barwon-Darling Unregulated River Water Source is 1 ML per unit share every year after the first year or a lesser amount to ensure compliance with the extraction limit.

Licencing Floodplain Works

IRN does not support the licencing of works in Floodplain Management Plan designated Zones A and D for FPH. There should also be no licencing of lagoons or other natural floodplain water bodies as FPH works. Extraction from these important wetland habitats threatens their ability to provide critical drought refugia in a drying climate.

All unapproved works and ‘hotspot’ works must be removed or remediated before FPH works licences are granted. No access entitlements should be allocated in relation to unapproved works.

Rules to Protect Held Environmental Water

Held Environmental Water (HEW) crossing the Queensland Border or entering the Barwon-Darling from the NSW Northern Basin tributaries must be protected from FPH extraction if the volumes contribute to overbank flows. These provide important environmental function.

The current Active Management rules in the Barwon-Darling Water Sharing Plan do not protect any of these sources of HEW. This is a key failing of water management under the Basin Plan that must be rectified. The opportunity for piggybacking must be protected.

Resumption of Flow Rules

IRN strongly opposes the low local in-valley flow targets for access to FPH adopted to manage the protection of ‘first flush flows’⁵ in the NSW Northern Basin tributaries. There was no consultation around these rules, and they basically lock in existing water management practice.

These rules will keep the Barwon-Darling in prolonged dry scenario and drought conditions. The end-of-system flow targets must be lifted and flows protected in the Barwon-Darling Water Sharing Plan.

Access to overland flows in the Barwon-Darling should not occur until Menindee Lakes holds 450 GL and a flow of 30 GL for 15 consecutive days has occurred or is forecast at Wilcannia.

The current proposed levels do not account for the 125 GL of dead storage in Menindee Lakes and will maintain the Darling/Baaka in a state of ecological collapse.

Amendment provisions for FPH rules

IRN strongly opposes the proposal that an amendment provision to add, modify or remove provisions for FPH (unregulated river) access licence doesn’t significantly alter the long-term volume of FPH that can be taken under legal limits.

⁵ <https://www.industry.nsw.gov.au/water/plans-programs/healthy-floodplains-project/about/nsw-legislative-council-inquiry-into-floodplain-harvesting>

The lack of assessment of risk of FPH to the environment, cultural values and downstream communities should be recognised and allow for appropriate amendments provisions to rectify these impacts.

The lack of information about return flows that has been left until after FPH licences are granted requires strong amendment provisions that do not trigger compensation under the *NSW Water Management Act 2000*.

We agree that strong amendment provisions across all rules should be available:

- to allow flexibility should environmental flows be targeted to create overbank flow, or
- in response to monitoring, evaluation and reporting outcomes of environmental benefits from licensing floodplain harvesting, or
- in response to improved understanding of the influence of floodplain harvesting on downstream flows
- in response to improved integration of hydrologic and hydrodynamic model systems.

Conclusion

IRN urges the NSW Government to take a more precautionary approach to the regulation of FPH in the Barwon-Darling. The system needs more support to achieve improved resilience and ability to survive future climate change predictions of more intense and prolonged drought.

This means that much less overland flow should be intercepted for private commercial gain at the expense of all other users of the river system, including native plant and animal species.

For more information on this submission contact:

inlandriversnetwork@gmail.com

Yours sincerely
Brian Stevens
Secretary