

COMMONWEALTH ENVIRONMENTAL WATER HOLDER SUBMISSION: INDEPENDENT REVIEW OF FLOODPLAIN HARVESTING IN NSW WATER RESOURCE PLANS

Context

Bringing floodplain harvesting (FPH) into the NSW licencing framework is supported by the Commonwealth Environmental Water Holder (CEWH), in the context of knowing the overall use of the water resource and thereby providing a means to protect significant environmental assets and ecosystem functions within NSW.

Balancing sustainable development and environmental protection presents significant challenges, as is demonstrated in the documentation made publicly available by the NSW Department of Industry – Water (DoI). Addressing these challenges to avoid unintended consequences requires a range of strategies to effectively mitigate potential future risks, based on robust information. Commissioning an independent review of the modelling and the conditions supporting the implementation of the NSW’s FPH policy, as a means of providing stakeholder assurance, is commended and demonstrates DoI’s commitment to transparency in conducting its water reform agenda.

This submission highlights potential risks and suggests mitigation options that would provide confidence within the context of the statutory responsibilities of the CEWH. These statutory responsibilities involve the management of the Commonwealth water holdings under the Commonwealth *Water Act 2007* (Water Act) to protect and restore environmental assets of the Murray-Darling Basin, and the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) to ensure the efficient and effective use of Commonwealth resources.

Comments within this submission also reflect the responsibilities of the Department of Environment and Energy in exercising its duties as Australia’s Administrative Authority to the Ramsar Convention and administering the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to protect matters of national environmental significance, particularly meeting Australia’s obligations under the Ramsar Convention.

We would welcome the opportunity to discuss the content of this submission with the independent reviewers and DoI officials, in particular seeking assurance in the management of risks related to:

1. matters of national environmental significance and international responsibilities under the Ramsar Convention;
2. the efficient and effective management of the Commonwealth’s water holdings

Specific issues are also raised in relation to rainfall runoff and temporary storages.

1. Avoiding impacts to matters of national environmental significance

In 2010, the Convention on Wetlands of International Importance (Ramsar Convention) was notified of a likely change in the ecological character of the Macquarie Marshes Ramsar wetland, with changes to the flow regime resulting from river regulation as the key threatening process. The ecological character of wetlands such as the Macquarie Marshes and Gwydir wetlands relies on natural high flow events that are beyond the scope of environmental water holdings to

recreate. There is a credible risk that floodplain harvesting could significantly impact on very large flow events and therefore the ecological character of these wetlands.

There is insufficient information currently available to determine the potential impact of FPH volumetric limits and carry-over account rules on natural flow events relied upon to maintain and restore the ecological character of floodplain environmental assets and threatened aquatic species. We recommend that further consideration is given to assessing environmental impacts prior to finalising the FPH policy. Supporting our concern, the DoI risk assessments for water resource planning identify high and medium risks to Ramsar sites in the Gwydir and Macquarie valleys resulting from insufficient fresh and high flows. This situation is likely to be further exacerbated under a drying climate. Demonstrated effectiveness of proposed account conditions for mitigating the environmental risks is not yet apparent in the publicly available information.

An action that has, will have, or is likely to have, a significant impact on the ecological character of Ramsar listed wetlands must be referred for environmental assessment and approval under the EPBC Act. We are encouraged by references within the FPH policy document of environmental assessments to be conducted in issuing works approvals, including assessment of the cumulative impact of water management activities. It is suggested that explicit consideration be given to potential impacts on matters of national environmental significance, particularly the ecological character of Ramsar listed wetlands. We would encourage further consideration of the requirements of the EPBC Act, and in particular whether a strategic assessment under Part 10 of the Act prior to making amendments to the water sharing plans may be warranted.

The independent reviewers are asked to consider:

- whether the model configuration allows the accurate simulation of downstream flows and is sensitive to assessing impact that may arise from changes to the FPH licences and account rules;
- reporting against flow indicators from the model analysis that represent the flow components critical to the maintenance and restoration of the Gwydir and Macquarie Marshes Ramsar listed wetlands;
- the scope of the NSW environmental assessment as a mechanism for providing public statements of assurance that the FPH framework within individual valleys will not pose a risk to matters of national environmental significance, and remain consistent with the objectives of the Murray-Darling Basin Plan;
- effectiveness of account management rules (particularly carry over conditions) to mitigate event based environmental risks, and the evidence used to determine residual risk, particularly in the context of a drying climate.

2. Efficient and effective use of the Commonwealth water holdings

Discharging the CEWH's statutory responsibilities for the efficient and effective use of Commonwealth resources relies on Basin state policy settings that allow water held for the environment to be delivered on top of natural flow events. Account management rules that allow for carry-over limits of up to 500% of a licenced entitlement could potentially impact the characteristics of natural flow events (e.g. magnitude, duration, timing, recurrence) that the environmentally sustainable level of take was based, and would require the substitution of held

environmental water to achieve the equivalent outcomes. Assessments based on average long-term metrics are not sensitive to these event-scale impacts.

Impacts to the effectiveness of held environmental water are likely to be accentuated under a future operating environment with relaxed flow constraints (refer to MDBA Constraints Management Strategy). The NSW FPH policy and the establishment of the proposed licence conditions do not appear to consider the future scenario (constraints relaxation) where held environmental water is used to enhance natural high flow events as a directed release of water from storage or the current practice of environmental water managers exercising supplementary access to protect a flow through the river system. The independent reviewers and DoI are encouraged to consider account management rules that provide event-scale protection for the effective use of held environmental water, including the reduction in carry-over provisions for FPH. Such rules would be consistent with the NSW policy of no impacts on access rights and water use by third party licence holders, in this instance licences held for the environment.

Characterising the management of environmental water holdings within a modelling framework is acknowledged to be challenging. The uncertainty in the predictive capability of valley models with environmental water management, and with respect to the value of governments' investment in Basin reforms, warrants a precautionary approach to the implementation of the NSW FPH policy. We are encouraged by the review process referred to within the policy documents which commits to improving model robustness and reviewing the determination of extractive licences. In determining the final extraction limits, we expect that there will be a high level of public interest in the modelling process and the underpinning data related to historic operations and use. Full transparency in this process of review and final licence determination is strongly encouraged, and to this effect we recommend a public statement of assurance on the robustness of the method (model) and data used to determine the level of take that will be licenced.

The independent reviewers are asked to consider potential impacts on the holders of water licences for environmental purposes, specifically:

- whether the current model configuration characterises all forms of take, including environmental water use, such that it allows for an assessment of potential impacts on the effective use of environmental water holdings;
- assess the risk of diversion of held environmental water through FPH, including supplementary 'take' by environmental water holders where water deemed to be 'taken' is left instream to provide end-of-system flows;
- account management rules, and other event-based mechanisms, that provide protection of held environmental water delivered on top of natural flow events, particularly under a future scenario within constraints relaxed operating conditions; and
- that any review process to consider impacts on access licences held for environmental purposes (i.e. managing third party impacts).

3. Specific issues

Rainfall runoff

As indicated in our submission on the NSW Water Reform package in April 2018, we are supportive of combining rainfall-runoff and overland flow harvesting in a single FPH licence with overall diversions subject to FPH management rules. Using a combined figure for FPH licence shares could however legitimise an increase in floodplain diversions and mask the impact of proposed changes to accounting rules.

The independent reviewers are encouraged to review the appropriateness of the rainfall-runoff coefficient used to determine runoff contributions and the effectiveness of policy settings for determining annual permitted take specific to floodplain harvesting.

Temporary storage

CEWO strongly supports the approach NSW discussed in the Round 1 FPH stakeholder workshops to exclude inefficient temporary storage of floodwater such as shallow bunded fields from being eligible for FPH licensing. However, we seek clarity on:

- the legal status of the temporary storages that are deemed ineligible for licencing;
- whether volumes deemed as 'taken' previously using these unlicensed works are contributing to the preliminary determination of allowable take; and
- how interception by temporary works has been considered in the assessment of allowable FPH and environmental risk.