

## **COMMONWEALTH ENVIRONMENTAL WATER HOLDER SUBMISSION ON THE REVIEW OF THE PEEL REGULATED, UNREGULATED, ALLUVIAL AND FRACTURED ROCK WATER SOURCES (2010) WATER SHARING PLAN BY THE NATURAL RESOURCES COMMISSION**

### **Introduction**

The CEWH's role is established by the Water Act (2007) to manage Commonwealth water holdings for the purposes of protecting and restoring environmental assets of the Murray-Darling Basin. The CEWH acknowledges that social, cultural, and economic outcomes are all important in achieving a healthy working Murray-Darling Basin. The CEWH acknowledges the important role of the Natural Resources Commission (NRC) in providing independent evidence-based advice towards sustainably managed natural resources in NSW. The CEWH notes that NSW is working towards the accreditation of water resource plans under the Basin Plan, including the Namoi Surface Water Resource Plan, which incorporates the Peel Water Sharing Plan (WSP).

The CEWH recognises how severe the current drought is and how challenging conditions are for the community in the Peel valley. It is important that the Peel WSP provides an effective water management framework that supports all facets of the community and environment in all situations from very wet through to very dry, and provides for an appropriate level of connectivity with the Namoi River.

The CEWH acknowledges the recent announcement that funding has been set aside for a new Dungowan Dam near Tamworth. Future water sharing arrangements in the Peel and Namoi valleys will incorporate rules associated with this new dam.

The CEWH currently manages, on behalf of the Commonwealth, 1,257 ML of General Security entitlements in the Peel valley. During the last decade, allocations against these entitlements have been delivered to achieve environmental outcomes, traded when not required, and forfeited because of the absence of carryover rules in the Peel water source.

### **Structure**

This submission has an emphasis on environmental outcomes and two of the five submission questions nominated by the NRC:

1. To what extent do you feel the plan has contributed to environmental outcomes?
2. What changes do you feel are needed to the water sharing plan to improve outcomes?

Recommendations are made to:

- support the protection of planned and held environmental water, including clarification of current rules for uncontrolled take;
- recognise and support connectivity between the Peel and the Namoi rivers, and to protect held environmental water;
- support greater engagement with community and First Nations; and
- strengthen interagency collaboration in the coordination and management of flows.

## Discussion

### **1. To what extent do you feel the plan has contributed to environmental outcomes?**

The rules in the Peel WSP have been developed in accordance with the objects<sup>1</sup> and principles<sup>2</sup> of the *NSW Water Management Act 2000*, including the object that *'the sharing of water from a water source must protect the water source and its dependent ecosystems'*.

The environmental outcomes that the WSP should contribute to are associated with a range of environmental assets, water-dependent species, and riverine ecological processes. These assets, species and processes have certain environmental water requirements that have been expressed recently by NSW in the draft Long Term Watering Plan (LTWP) for the Namoi Water Resource Plan. The LTWP reflects new science that can be used to assess whether the Peel WSP has contributed significantly to achievement of environmental outcomes. Ultimately, there should be alignment between the Peel WSP provisions and the environmental water requirements in the LTWP. A greater alignment is now being proposed for the revised Barwon-Darling WSP, for example.

Environmental outcomes are affected by changes to the volume and pattern of flow. Water deliveries for a range of uses (including irrigation) can contribute to meeting environmental water requirements whilst the water is in transit in the river. Some in-channel environmental water requirements are currently being met by a combination of consumptive flows, tributary flow events, held and planned environmental water.

Planned environmental water provisions in the Peel WSP include an Environmental Contingency Allowance that was created when Chaffey Dam was enlarged to maintain planned environmental water previously from reduced dam spills. Other planned environmental water provisions include low flow releases from Chaffey Dam; some restrictions on access to uncontrolled flows; unregulated pumping rules; recharge of groundwater sources; and flows above the Long-Term Extraction Limit<sup>3</sup>.

The Peel WSP rules allow extraction of some planned environmental water<sup>4</sup>. In particular, the WSP rules that potentially allow extraction of the Environmental Contingency Allowance and uncontrolled flows above very low flow rates<sup>5</sup> can compromise achievement of baseflows (100-250 ML/day<sup>6</sup>) or small freshes (e.g. 250-1,350 ML/day at Piallamore). Recent fish death events in the Murray-Darling Basin confirm that low flows can be critical for the survival of native fish. Further, the Peel WSP does not support protection of ecologically important flow pulses (e.g. small and large freshes) and baseflows, which have been reduced by river regulation and extraction.

The Peel WSP rules prioritise consumptive orders over releases of the Environmental Contingency Allowance when there is insufficient release capacity<sup>7</sup>, and appear to allow extraction of water from the Environmental Contingency Allowance and uncontrolled flows<sup>8</sup>. These are discussed in more detail later in this submission. The LTWP suggests that there is potential to achieve additional environmental water requirements by better coordinating the use of planned and held environmental water with consumptive orders or uncontrolled flows. It is requested that the NRC review these matters.

Based on the above, the current Peel WSP provisions are unlikely to adequately protect the water source and its dependent ecosystems. The LTWP suggests that the volume of held and planned environmental water in the Peel catchment is insufficient to meet the suite of environmental water requirements needed

---

<sup>1</sup> Clause 3

<sup>2</sup> Clause 5

<sup>3</sup> Part 4 Division 1 Cl 16-17

<sup>4</sup> Part 9, Division 2 cl. 62

<sup>5</sup> Part 9, Division 2 Cl 62 (4)

<sup>6</sup> NSW DPIE 2019a,b

<sup>7</sup> Part 6, cl 31 (2)(d)

<sup>8</sup> Part 9, Division 2, cl. 62

to maintain a healthy ecosystem. A thorough assessment of the rules in the Peel WSP against the LTWP using modelling and other lines of evidence would be needed to test this further. It is requested that the NRC reviews the evidence on whether the Peel WSP is adequately contributing to environmental outcomes.

**Recommendation 1:** *That the NRC considers recommending that the planned environmental water provisions of the Peel WSP are reviewed and updated to better support the environmental water requirements in the LTWP.*

## **2. What changes do you feel are needed to the water sharing plan to improve outcomes?**

Addressing the following issues would improve river health in the Peel valley.

### 2.1 Flexibility to build on or extend tributary flows

The Peel WSP rules currently limit the ability to build on/extend natural tributary flows and thereby maximise benefits and effectiveness of environmental watering. The occurrence of small and large fresh flows in the Peel River has been reduced by flow regulation by water being stored in an enlarged Chaffey Dam. The ability to generate these types of ecologically-significant flow pulses in the Peel with environmental water alone is constrained by the relatively small size of held environmental water entitlements and the Environmental Contingency Allowance, and the risk of extraction of planned environmental water.

In order to increase the frequency and/or extend the duration of small or large fresh flows in the Peel, held and/or planned environmental water could potentially be used in conjunction with unregulated events in the Peel. For example, this could help achieve critical spawning flow durations or maintain depths for movement of native fish<sup>9</sup>.

### 2.2 Protection of the Environmental Contingency Allowance along the Peel

The Peel WSP rules appear to allow extraction of the Environmental Contingency Allowance along the length of the Peel<sup>10</sup>. This makes it difficult to plan and deliver held environmental water in conjunction with the Environmental Contingency Allowance to achieve environmental water requirements because the size of the flow event may be undermined by extraction.

Some in-channel environmental water requirements are currently being met by a combination of consumptive flows, tributary flow events, held and planned environmental water. However, the Peel WSP rules that prioritise consumptive orders over releases of the Environmental Contingency Allowance<sup>11</sup>, or allow extraction of water from the Environmental Contingency Allowance and uncontrolled flows<sup>12</sup>, constrain the ability to coordinate different water sources to support environmental water requirements and achieve environmental outcomes.

**Recommendation 2:** *That the NRC considers recommending that the Environmental Contingency Allowance within the Peel WSP is protected from extraction until the flow reaches the Namoi River.*

### 2.3 Uncontrolled flows

General Security licence holders are able to extract water from 'uncontrolled flows' up to the difference between the Available Water Determination made for that year and the maximum that can be made for General Security licence holders<sup>13</sup>. The Commonwealth cannot 'take' uncontrolled flow and then leave it in the river channel, and therefore it has a different right now from other extractive General Security licence holders. Held environmental water was acquired from licences from properties along the

---

<sup>9</sup> This type of approach is consistent with principles in the Basin Plan for maximising the benefits and effectiveness of environmental watering. Basin Plan, Division 6 cl. 8.35 (c)

<sup>10</sup> Part 9, Division 2 cl. 62

<sup>11</sup> Part 6, cl 31 (d)

<sup>12</sup> Part 9, Division 2, cl. 62

<sup>13</sup> Part 9, Division 2, cl. 62 (6)

regulated Peel system. Prior to its acquisition, the previous owners could have pumped the water out of the river during periods of uncontrolled flows. The Commonwealth therefore pays the same fees and charges as other General Security licence holders for rights that the previous owners could exercise fully, but the Commonwealth cannot.

Some options to rectify this could include:

1. Removal of General Security licence access to uncontrolled flows (preferred).
2. Ensure all General Security licence holders equitable access to flows that includes protecting an appropriate portion of uncontrolled flows for environmental outcomes.
3. Some re-crediting of water taken which affects the outcomes delivered by held environmental water.

An additional issue is that the uncontrolled flows rules appear to require the self-reporting of take, and may allow take that is not debited from an account<sup>14</sup>. These provisions may need to be amended to reflect new NSW metering policies under the Water Reform Action Plan. This may provide some General Security licence holders with increased access to water that is not available to the Commonwealth as a General Security user because at present, under Peel WSP rules the Commonwealth cannot access water during such events by virtue of it not owning pumps despite being a General Security licence holder. While the Commonwealth is not able to participate in such events, the lack of access by the Commonwealth compared to the previous owner may increase the reliability for those General Security licence holders who can participate.

**Recommendation 3:** *That the NRC considers recommending that the uncontrolled access rules in the Peel WSP are reviewed and amended, if required, to allow environmental water (held, and planned as appropriate) to be used in without the risk of either being extracted.*

**Recommendation 4:** *That the NRC considers recommending that the Peel WSP be reviewed and amended to ensure that all General Security licence holders have the same opportunity to access uncontrolled flows.*

#### 2.4 Supporting connectivity within and between water sources

Protecting and restoring connectivity within and between water dependent ecosystems is an objective of the NSW Water Reform Action Plan<sup>15</sup>. Restoring longitudinal connectivity throughout the catchment is critical for supporting many of the ecosystem functions in the Namoi-Peel river system, including improving threatened native fish populations.

Currently, held environmental water in the Peel can be re-regulated or extracted when it reaches the Lower Namoi water source. This held environmental water was acquired from licences from properties along the regulated Peel system. Prior to its acquisition, this water would have been extracted along the Peel River and would not have flowed into the Lower Namoi water source to be available for extraction or re-regulation by downstream users. Therefore, held environmental water from the Peel should be protected when it joins the Namoi, in the same way that NSW protects return flows of held environmental water from the Murrumbidgee River into the Murray River (i.e. between two regulated water sources). More broadly, the water resources of the Peel and Namoi should be managed in a more integrated, connected way.

Whilst the volume of Commonwealth environmental water holdings in the Peel is modest, re-regulation of held environmental water can result in less water available for protecting hydrologically connected downstream environments in the Namoi. There has been, and may still be, a population of endangered silver perch in the demonstration reaches of the Namoi that may have benefited, for example. Preventing re-regulation of held environmental water would allow these flows to provide connectivity benefits and support ecosystems downstream and would also enable deliveries of held environmental water from the

---

<sup>14</sup> Part 9, Division 2, cl. 62. (6) through (9)

<sup>15</sup> Part 2, s 8.06 (3))

Peel and Namoi to be coordinated for connectivity and other environmental benefits. This may help contribute to meeting LTWP and Basin-wide environmental watering strategy outcomes.

The NSW active management policy provides the pathway for introducing transparent measures for protecting environmental water in some other catchments. It currently has a focus on the transfer of flows from regulated water sources to unregulated water sources. There should be a mechanism developed to protect flows of held environmental water from the Peel into the Namoi. The draft Namoi Water Resource Plan and WSP should also provide commitments to develop operational procedures that codify arrangements for the protection of environmental water. This would provide transparency and certainty for all users.

**Recommendation 5:** *That the NRC considers recommending that the Peel and Namoi WSPs are reviewed and updated to protect the flow of held environmental water and improve connectivity between these two water sources.*

### 2.5 Carryover and multi-year management

Currently, there are no carryover provisions for General Security regulated licences in the Peel WSP. Lack of carryover encourages users to use water within the year and does not allow management of water and risks over multiple years.

Environmental demands vary between years. Having the ability to accrue and manage environmental water over multiple years would enhance the ability to target environmental demands when water is most urgently needed. For example, in wetter years, access to carryover would allow water to be held in storage to be used to meet environmental demands in subsequent years when the demands may be higher. Carryover rules in other valleys has enabled the CEWH to successfully manage water over multiple years to meet a range of environmental demands and has associated social and community benefits. Through carryover, water could be accrued across years to a scale that is helpful. Other General Security users may also benefit from multi-year planning of water use and risk, rather than to 'use or lose it'.

The CEWH acknowledges that the storage behaviour, spill and reset and allocations may change from current practice if carryover were to be introduced in the Peel. However, carryover is used in many other valleys, which could inform implementation of carryover rules in the Peel.

**Recommendation 6:** *That the NRC consider recommending that the Peel WSP be reviewed to consider inclusion of appropriate carryover rules for General Security entitlement holders in the Peel WSP.*

### 2.6 Reasonable use guidelines for Basic Landholder Rights

Currently, riparian landholders can take water from the river (including environmental flow events) for stock and domestic purposes under basic landholder rights. Whilst NSW has a Natural Resource Access Regulator, it currently does not have rules or guidelines that this regulator can use to assess whether the take of water for basic landholder rights is reasonable in terms of the volume of take. The CEWH is aware that this issue has been raised by the NRC and submissions to the NRC in other valleys, including in the Barwon-Darling. The CEWH suggests that this needs to be resolved as a matter of priority. The CEWH notes that the NRC recommendations on the Barwon-Darling WSP includes a recommendation that these guidelines are in effect by the end of 2020.

**Recommendation 7:** *That the NRC considers recommending that NSW complete and publish 'reasonable use guidelines' for the take of stock and domestic water and basic landholder rights as a matter of priority, to support the work by the NSW Natural Resources Access Regulator.*

## 2.7 Supporting consultation, collaboration and local knowledge

The CEWH supports the introduction of an Namoi-Peel Environmental Water Advisory Group as there is no formal consultative mechanism in the Peel WSP that enable the views and local knowledge of local communities to support planning and delivery of environmental water (held and planned) in the Namoi - Peel. Environmental Water Advisory Groups are effective mechanisms for supporting consultation, collaboration, and incorporation of local knowledge in other valleys. The NRC has recommended improved coordination in other valleys such as the Border Rivers.

**Recommendation 8:** *That the NRC considers recommending that steps are taken to formalise interagency and community-based collaboration for the management and coordination of both planned and held environmental water including in the Namoi-Peel through the establishment of a Namoi-Peel Environmental Water Advisory Group.*

## 2.6 Supporting Cultural Values and Cultural Flows

The CEWH acknowledges the Traditional Owners and their Nations have deep cultural, social, environmental, spiritual and economic connection to their lands and waters. Healthy rivers and full waterholes and weir pools also contribute significantly to the health and wellbeing of Aboriginal communities along the rivers.

The Traditional Owners, have longstanding and continuing ties to country, and hold the rivers, wetlands and floodplains in this catchment in high regard. Many important sites and artefacts exist across the Namoi catchment including the Peel, including traditional burial sites, scar trees, Aboriginal Ceremony and Dreaming sites. Some sites may be significant because they are a rare example of a particular ecosystem; others may contain habitat for rare or endangered species, while others provide habitat for migratory bird species. Some species are considered to be totemic by Aboriginal communities. Some places, may be particularly significant because they hold spiritual or cultural significance for Aboriginal people. The NRC has made recommendations to support cultural values in other valleys, including recently in the Barwon-Darling.

**Recommendation 9:** *That the NRC considers recommending that steps are taken to enhance engagement with the Aboriginal community in relation to cultural flows and water management including WSP objectives, and if appropriate, establish cultural licenses in the Peel valley.*

## **3. Other issues**

### 3.1 Surface-groundwater interactions and sustainability

Groundwater and surface water in the regulated Peel River are intricately linked (O'Rourke 2010). These systems need to be managed as an interconnected single source (Kelly et al. 2013). The Peel River downstream of Chaffey Dam loses water to the groundwater system along most its length, only gaining groundwater at the bottom end at Carroll Gap (O'Rourke 2010). Groundwater is important in providing water for stock, domestic, irrigation and industry, and supporting terrestrial and aquatic ecosystems (Green et al. 2011). During extended dry periods, groundwater can be critical for maintaining refuges in parts of the river. However, groundwater withdrawals over the past decade have changed some parts of the Namoi River from gaining to losing systems (Kelly et al. 2013). This may have occurred in other river systems and has the potential to affect the river's resilience to drought (e.g. impact on baseflows) (Kelly et al. 2013) as well as impact on ecology and vegetation that may be reliant on these flows.

It is important that the Peel WSP establishes sustainable levels of take and appropriate buffer distances to ensure adequate protection of groundwater dependent ecosystems, environmental assets and interconnected river systems. Given the current extended dry conditions and history of groundwater extraction in the Namoi-Peel systems, it may be valuable to review the status of the groundwater systems in the Peel to ensure the long-term sustainability of the alluvial water source is maintained by the current

sustainable diversion limit and rules in the Peel WSP plan. This could consider, with increased reliance on groundwater systems during extended dry periods, whether these systems are being recharged adequately during wetter times and identify any consequent effects on flows in surface water systems and groundwater dependent ecosystems. Particularly as it can take years or decades for the impact of groundwater extraction to be transmitted through the aquifer system (Kelly et al. 2013). The impacts of climate change on groundwater and interconnected surface water systems could also be re-examined in such a review. It would also be useful to assess the adequacy of the existing groundwater monitoring network in monitoring impacts on groundwater-dependent ecosystems.

**Recommendation 10:** *That the NRC considers whether the interaction between the groundwater and surface water systems in the Peel are adequate to ensure the long-term sustainability of both water sources.*

### 3.2 Management during extended dry sequences

During extended dry sequences, adequate, transparent and timely management and sharing of water sources is critical in valleys including the Peel. The management and sharing of water sources impacts water availability (surface and groundwater) and losses, which impacts users, the environment, towns, cultural values and livelihoods. Priorities and management responses during these times need to be very clear. The critical human and environmental needs within the Peel should be clearly identified, together with how these needs will be addressed during extended dry sequences. An assessment of residual risk to the ability to support these needs from operational decisions is required to help planning and response management.

**Recommendation 11:** *That the NRC considers whether the provisions in WSPs are adequate to provide for critical human and environmental needs during ongoing dry conditions.*

## References:

Commonwealth of Australia (2013). Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin. June 2013.

<https://www.coag.gov.au/about-coag/agreements/intergovernmental-agreement-implementing-water-reform-murray-darling-basin>

Kelly B. F. J., Timms W. A., Andersen M. S., McCallum A. M., Blakers R. S., Smith R., Rau G. C., Badenhop A., Ludowici K., Acworth R. I. (2013). Aquifer heterogeneity and response time: the challenge for groundwater management. *Crop and Pasture Science* **64**, 1141-1154. <https://doi.org/10.1071/CP13084>

Murray–Darling Basin Authority (2012). Basin Plan 2012. Extracted from the Federal Register of Legislation on 27 February 2019. F2018C00451. Canberra.

Murray–Darling Basin Authority (2014). *Basin-wide environmental watering strategy*. Kerry Molloy (ed). Canberra.

NSW Department of Planning, Industry and Environment (2019a). *Long Namoi LTWP Part A: Namoi catchment. Draft for exhibition*. September 2019 version. NSW Department of Planning, Industry and Environment.

NSW Department of Planning, Industry and Environment (2019b). *Long Namoi LTWP Part B: Namoi catchment. Draft for exhibition*. September 2019 version. NSW Department of Planning, Industry and Environment.

NSW Department of Primary Industries (2015). *Fish and Flows in the Northern Basin: responses of fish to changes in flow in the Northern Murray–Darling Basin – Valley Scale Report*. Final report prepared for the Murray–Darling Basin Authority. NSW Department of Primary Industries, Tamworth.

<https://www.mdba.gov.au/sites/default/files/pubs/fish-and-flows-nb-stage-2-valley-scale.pdf>

NSW Department of Primary Industries (2019). *Fish and Flows in the Northern Basin Stage II: Namoi Valley*. Prepared for the Murray-Darling Basin Authority. NSW Department of Primary Industries, Tamworth.

NSW Government (2000). *Water Management Act 2000 No 92*. [online] Legislation.nsw.gov.au.

<https://legislation.nsw.gov.au/#/view/act/2000/92/whole> [Accessed 06/09/2019]

NSW Office of Water (2010). Water sharing plan for the Peel Valley regulated, unregulated, alluvium and fractured rock water sources: background document. NSW Office of Water, Sydney NSW.

O'Rourke, M., (2010), *Peel Valley Catchment; Groundwater Status Report – 2010*, NSW Office of Water, Sydney.

WaterNSW (2019). Domestic and Stock Rights. [Online] <https://www.waternsw.com.au/customer-service/water-licensing/basic-water-rights/domestic-and-stock-rights> [Accessed 6/09/2019].