Planning, Industry & Environment

Our ref: DOC20/1033104

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Dear [redacted]

Comments on Draft Macquarie-Castlereagh Regional Water Strategy (RWS)

Thank you for the opportunity to make comment on the draft RWS as exhibited. As the manager for NSW Environmental Water, DPIE Biodiversity, Conservation and Science (DPIE-BCS) has reviewed the draft documents and offers the following comments for your consideration:

1) **Incorporation of Climate Change into water planning:** DPIE-BCS is supportive of long-term perspectives around water planning and is pleased to note the incorporation of climate projections into the Strategy. We consider that the uncertainty around the projections is not adequately explained, nor the rationale behind the selection of the conservative dry climate scenario. We recommend selecting the most likely scenario rather than the worst-case scenario, or consideration of the range of possible outcomes to drive the Strategy. Selection of the worst-case scenario raises questions about the sustainability of current industries and whether structural readjustment should be a key component of the Strategy.
2) **Projects which offer improvements to the effectiveness of managed environmental water:** DPIE-BCS is pleased to note the options to improve environmental outcomes and will continue to engage and work with the RWS team to further develop environmental projects and add these to the list of RWS Options.
3) **Projects that impact hydrology and compromise Basin Plan outcomes and water dependent ecosystems**: Some of the long list options present a high risk to downstream water dependent ecosystems by further disrupting flow variability, longitudinal and/or lateral flow connections, and groundwater recharge. DPIE-BCS have provided our assessment of 'long list' options to DPIE-Water separately.

Consistent with NSW government policy, DPIE-BCS recommend prioritising the exploration of the most cost-effective options which seek to improve water management arrangements and delivery infrastructure consistent with the objectives and principles of the *Water Management Act 2000,* and consistency with the requirements of the Basin Plan in inland catchments.

Our detailed comments and recommendations can be found in Appendix A.

If you have any questions about this advice, please do not hesitate to contact [redacted]

Yours sincerely

[redacted]

Appendix A – Suggested edits on *Draft Macquarie Regional Water Strategy* (version Nov 2020)

North West Region DPIE-BCS staff have reviewed the public exhibition version of the Draft Strategy and offer the following comments in relation to the document.

- **Page 8:** The Full Supply Level (100%) of Burrendong Dam should be provided (~1,180GL) in addition to total capacity, as the maximum possible storage is irrelevant to general management of the storage, given the remainder is freeboard/Flood Mitigation Zone (FMZ).
- **Page 11 map:**
  - Main roads (highways etc) appear to be missing. These should be added to assist the reader.
  - Review the label 'Macquarie wetlands'. We assume you mean Macquarie Marshes (only). If this is the case, we recommend that the label is updated to 'Macquarie Marshes'. DPIE-BCS note the use of the DIWA boundary which is not generally regarded as the true boundary of the Marshes. We suggest using the *Adaptive Environmental Management Plan for the Macquarie Marshes* 2010 ('AEMP') boundary instead. We can provide this boundary upon request.
  - In relation to the Ramsar boundary, the U-block portion of the Macquarie Marshes Ramsar site does not appear to be present on the map, though the scale might hide it. This could be rectified through either the addition of the U-block and/or finer scale mapping.
  - Additional labels would benefit the reader such as the addition of the Barwon River, Burrendong and Windamere Dams.
  - There appear to be some significant areas of National Parks estate missing from the map including: Ginghet NR, the Pillicawarrina, Ninnia and South Roubaix portions of the Macquarie Marshes Nature Reserve, Winenbah NR. We suggest the map is updated to include these assets.
- **Page 13: "***For example, a 60% reliability means that in 60% of years a licence holder can expect to receive 100% of their licensed entitlement by the end of the water year*." Suggest that this is reviewed, as this is not what most water users would consider to be the definition of reliability. Long-term average allocations (or usage, for unregulated and supplementary licences) would be more useful for general security entitlements.
- **Page 39:** The quarantine of 100% of GS carryover in 2019/20 should be added here. It was also a significant occurrence in the catchment, particularly as it primarily affected environmental water carried over for deep drought, effectively nullifying our conservative water management.
- **Page 40:** Many people consider the rainfall-runoff relationship may have changed due to increasing upper Macquarie unreg take, diversions, storage and forestry. The modelled runoff figure for Feb 2018 was ~32GL, monthly inflows to Burrendong were only 1.4GL. This is a significant issue for regulated water users. DPIE-BCS recommend that the strategy is updated to include the actual runoff numbers from 2018 and 2019, rather than just modelled numbers.

- **Page 49:**
  - **Fig 13:** The DIWA boundary of the Marshes is mapped as the same green as nature reserves and State Forests. This is potentially misleading as they are 90% private land not managed specifically for conservation. As above, we suggest using the AEMP boundary instead.
  - **Fig 15:** Indicates the full supply level of Burrendong 1,750GL – this is incorrect. The 100% FSL is approximately 1,180GL. This appears to be an error throughout the document where maximum flood capacity is mixed up with 100% FSL. We suggest a search and replace for other references to this issue.

    The data indicates large flood events (damspills) are significantly reduced in frequency and size in future climate change modelling scenarios. This appears contrary to the previous NARCLiM advice that significant rainfall events would still occur in the catchment over summer. Without big flood events there will be major risks to flow-dependent vegetation in the catchment, especially on floodplains. We are interested in participating in discussions around this possible scenario in relation to the proposal to change utilisation of the Burrendong Flood Mitigation Zone. . .
  - **Figure 16:** Indicates Windamere storage at significantly lower levels throughout time, much of the time below 100,000ML. This appears to be a significant risk to town water supply and environmental water allowance triggers. We would be interested in a discussion about this outcome if it is to be used to guide Water Sharing Plans, as it would effectively make the Cudgegong Environmental Water Allowance undeliverable.
- **Page 58:** States "*Given how connected the Macquarie- Castlereagh catchment is to the Barwon-Darling River, we may need to look at options that improve connectivity and enable all communities across NSW to have fair and equitable access to water."* This statement should be updated to specifically reference intended connectivity actions rather than a vague commitment.
- **Page 69:** States **"…***varying from 1,800 to 3,000 hectares, depending on the time of year*." We recommend this is revised to the following *"…varying from 1,800 to 3,000 hectares, depending on the sequence of Marshes inflows over 2-3 years."*
- **Page 75 Figure 21:** The Environmental Water Allowance GS shares should be amended to reflect the correct figure of 160GL. Floodplain harvesting should also be added to this graph.
- **Page 81:**
  - **Figure 22:** The 'HEW available' is incorrect and should be updated. The graph shows general security entitlements, not available water for use (i.e. account balance). The graph should be corrected to either show account balance or change the labels to 'total entitlement'.
  - **Figure 23**: This data appears incorrect and should be amended for accuracy. The quantities of 'account water' in many of the years as shown was not used.
- **Page 87 Table 4:** The table would benefit from a review of the water security risk rating applied to each water utility user as there are some ratings that seem inconsistent. For example, Dubbo's risk rating is 'very high' when it has regulated licences and access to groundwater, versus Orange with neither of these water sources yet it has a rating of 'high'. This is questionable and counter to the

recent drought experience.

The table also uses population figures from 2014. Suggest that this is revised to use the more recent 2018 population data.

- **Pages 105 – 112 Table 5:** Includes several options that includes the statement "*This is an existing government commitment***"** in the description column. DPIE-BSC recommend that this is clarified in the document to explain that commitments have been made to investigate the proposals, not build them. E.g. we've not seen confirmation of Fish passage strategy funding to date.