Lachlan Regional Water Strategy – SW Region Comments

Thank you for the opportunity to provide comment on the Draft Lachlan Regional Water Strategy (Strategy). EHG offers the following comments. These comments are strategic in nature and are provided in addition to previous targeted comments on the actions, made over successive years by EHG.

EHG acknowledges the significant amount of work invested in the Strategy. The presentation of complex data and challenging material is to be complimented. EHG recognises the Strategy has identified the critical challenges facing water management in the Lachlan Valley and these have been clearly articulated and presented. The overriding challenge identified by the strategy is managing a declining water resource in the face of negative climate drivers**.** The data presented indicate a declining resource for General Security users. The Strategy also notes that the environment faces significant risks with more frequent extreme events, and lower flows in unregulated rivers, and towns face increases of critical water shortages. EHG considers the Strategy could go further towards strategically addressing the role water management can play in terms of both adapting to and mitigating climate change.

Climate Change Adaption (Priorities 1 and 3)

It has become apparent that the primary challenge identified in the Strategy of managing a declining resource in the face of negative climate drivers, is a challenge that the Region has been dealing with for a number of years. The decade from 2001 to 2010 was the hottest on record, while 2019 was the hottest and driest year in NSW (DECCW 2011, BOM 2019). ABAREs (2021) latest modelling has examined the effects of recent and possible future changes in climate on the agricultural sector. Its analysis shows profits are down significantly over the past 20 years compared to the historical average (ABARES 2021). ABARES estimates that changes in seasonal conditions over the period 2001 to 2020 (relative to 1950 to 2000) have reduced annual average farm profits by 23%. These impacts have been most pronounced in south-western and south-eastern Australia (note this data incorporates all agriculture which was also grouped in the Strategy). In terms of considering the impact of the last 20 years on the environment the BOM State of the Environment Report notes that there has been a decline in rainfall of around 12 per cent (April to October) since the late 1990s, leading to an increase in extreme events and decreased streamflow. It can be seen referenced in the Strategy and clearly in the LTWPs that the environmental needs of our rivers and wetlands have also been significantly impacted. There are a range of factors at play for both the environment and industry but it is apparent that seasonal conditions or climate, is already impacting significantly upon industry and the environment.

The Strategy notes, *The industry profile in the Lachlan region is changing. Over the next 20 years, food processing and agriculture, mining and renewable energy production is expected to expand – aided in parts by upgrades to roads and transport links. Our challenge is to support new and existing industries in the context of a variable and changing climate and fully committed water resources*. If other new industries are to expand and the resource is fully committed then necessarily some industries will contract. Actions 1.9 and 3.3 briefly touch on this issue of how to provide for industry in a changing landscape. However, many of the actions proposed in the Strategy centre around attempting to find or store additional small parcels of water. Such

solutions have marginal benefit and many carry environmental cost (please refer to previous comments on Actions by Joanne Lenehan). EHG considers that actions which provide strategic vision for industry, communities and the environment to change and better adapt to the declining resource are required.

Resource Allocation

In terms of climate change adaption, a review of the total resource and how it is utilised is warranted. The Strategy analysed the economic contribution of various industries to the community. EHG considers that a further breakdown and analysis of the economic contribution within the various agricultural sectors would be advantageous to see a comprehensive economic picture. EHG considers that an analysis of how much of the water resource is utilised by all those industries is required to strategically plan the water resource for the future and maximise community and economic benefits. For example: it is noted that the economic data shows a significant economic contribution from the real estate services industry. If it is found that much of this gross product is generated through towns, then it might be determined that this warrants a larger portion of the resource being set aside to support towns to ensure those high priority town-based industries are not jeopardised during extreme events.

As the data is presented in the Strategy, the resource is becoming, and may in the future become smaller. Some water users such as industry and commercial users can, to some extent, adapt to less water. However, towns/humans and the environment have limited capacity to adapt. Other high value industries such as mining may also have limited capacity to adapt. Consideration of the total volume of water available in the valley and how it is utilised is warranted to strategically plan for a drier future and meet the 3 priorities.

It is noted that there are a number of actions in the Strategy to specifically source additional water for towns during extreme events. However, there is limited strategy around preventing the extreme events. When the original Water Sharing Plans were developed in 2004 Town and BLR entitlements were prioritised to survive through the lowest inflows on record. This has changed, and since that time the dryer climate periods have not been incorporated into the decision making process. An up to date model which includes the latest climate records to determine AWD would ensure higher security for towns, BLR and the environment.

The issue is partly explored in the Strategy with the consideration of the AWD process. EWG thinks this could be further explored. EHG notes that some data was presented on accounting rules and the AWD process. EHG would like to access the report when it is available.

River Management

River operation is another area which could be explored in terms of climate change adaption. For example, to preserve water, rivers are being run with increasing efficiency. This has resulted in less "excess" water in the system. That means less water going down effluent creeks, unregulated systems, and distributaries, and generally lower operating levels in the river system. More water has been available for consumption, but at an environmental cost. Less water going to the environment brings forward drier conditions earlier. In terms of adapting to climate change impacts we need to be mindful of how the rivers are managed to deliver the best possible environmental outcomes every day, not just when delivering parcels of environmental water.

Climate change mitigation (Priorities 1, 2 and 3)

EHG also considers that the Strategy should consider how water management can contribute towards mitigating climate change. The native vegetation on our floodplains and wetlands contributes significantly to absorbing and sequestering carbon. Freshwater wetlands perform many functions and are vital for environmental, economic, social, and cultural reasons. They have among the highest carbon sequestration rates in the world (many times greater than terrestrial forests) (Carnell et al, 2018). Carnell et al 2018 examined the carbon sequestration from natural wetlands in the southeast of Australia. It has been demonstrated that with active restoration efforts such as environmental watering greenhouse gas emissions can be reduced by 28-84% (Limpert et al. 2020).

EHG considers that the Strategy should consider incorporating additional strategies for climate change mitigation impacts which may also have the potential to deliver economic benefit to the region. Various programs exist for landholders to reserve portions of land and sequester carbon and/or biodiversity on their properties for payment. Australia's carbon crediting scheme, the Emissions Reduction Fund (ERF) offers landholders, communities and businesses the opportunity to run projects that remove and sequester carbon from the atmosphere. Participants can earn Australian Carbon Credit Units (ACCUs) for every tonne of tonne of carbon dioxide emissions stored or avoided by a project. ACCUs can be sold to generate income, either to the Australian Government through a carbon abatement contract, or to companies and other private buyers in the secondary market (DEECCW).

Another program which may have the potential to expand into this region is the Blue Carbon or Teal Carbon program. This is a program which the blue carbon method enables Australian carbon credit units (ACCUs) to be earned by projects that restore esturine wetlands. This results in the rewetting or restoration of drained coastal wetland ecosystems. The method enables ACCUs to be earned for the establishment of coastal wetland ecosystems. Currently this program is only applied on the coast in esturine wetlands but investigations into application in freshwater wetlands (Teal Carbon) are ongoing.

EHG suggests that there is potential for areas of marginal agricultural profitability to find alternative revenue through the carbon market by rehabilitating landscapes. To expand on this idea further, partnerships could be developed with Environmental Water Holders to deliver additional water to sites to expand areas of wetland and carbon sequestration. Wetlands and the support of ecosystem services are part of a long term program of storing carbon and limiting the damage caused by a warming climate.

With the carbon market expanding (see note) combined with uncertainty around a declining resource, it is perhaps one alternative industry for the Strategy to consider. Further, restoring biodiversity on floodplains and wetlands will bring other ecological services and addition economic prosperity such as tourism and recreation to the Region which the strategy notes is dependent upon high quality water resources and healthy waterways. It should also be noted that the Biodiversity Offset Scheme is already in operation which also is another potential market for conservation. The integration of long-term Strategies which benefit both the

environment, the economy and communities can only provide positive scenarios for the Region and deliver upon the triple bottom line.

Note: In relation to the carbon market, Ernest and Young (2023) note that the market clearing prices for ACCUs (Australian Carbon Credit Units) will rise under all future plausible scenarios. Their central estimate sees prices doubling to around AU$75 (in real dollars) before 2035.

Environmental Watering Requirements

It is noted that future GS allocations are presented in the future climate change scenarios, but that the same analysis has not been presented for the Environmental Watering Requirements. EHG would also like this data included to fully understand the risks to the environment.

Groundwater

EHG has concerns with references to increasing access to Groundwater. Further drawdown will only create more pressure on these systems and the ecosystems that depend on them and EHG does not see this as a sustainable solution.

Infrastructure Actions

EHG refers DPE Water to all previous comments on the various proposed infrastructure projects. Concerns remain for any infrastructure project with minimal cost benefit ratios.

References

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