

Questions for CLG Meeting 24 August 2020

From Save Chichester Valley, Limeburner's Creek, SWRC and Healthy Hunter Rivers Groups

Q1: A report produced by Water RA (2019) on potable water reuse (Project #3039) states that 'a *sustained and comprehensive public consultation plan that addresses the health, safety and quality concerns through the various stages, from planning to implementation, is an essential tool to advance the success of projects*' if a potable reuse scheme is to be successfully adopted. How does HWC intend to broach the subject of potable water reuse with the Lower Hunter community?

And

Q2: Does HWC intend to approach the subject of potable water reuse from the position of ensuring the success of any possible project, or does it intend to base any decisions on the instinctive or emotional responses that people naturally have towards reuse of wastewater for drinking purposes? What is HWC's plan and implementation strategy in this area?

R (Q1 and Q2): Hunter Water has started engaging with the community about Purified Recycled Water for drinking (PRW) to better understand community perceptions. This information will be used to inform a PRW strategy moving forward.

Hunter Water will provide a more detailed update on PRW at the CLG meeting on 24 August 2020.

Q3: *The Greater Hunter Regional Water Strategy* regards a recycling scheme of 5000ml/yr as small scale. The strategy recommends that HWC further investigate opportunities for a major recycling project. Is there a particular large-scale recycling project that HWC is investigating, since community consultations since 2010 have consistently demonstrated recycling to be a priority (and not dams) for the Lower Hunter community?

R: As per presentation to the CLG in May 2020, Hunter Water is investigating numerous recycled water opportunities for urban irrigation, industrial, and residential schemes. Hunter Water is also investigating both local and regional scale agricultural reuse opportunities that could supply recycled water to end users in either the Lower or Upper Hunter. Agricultural reuse schemes have the potential to improve agribusiness productivity and resilience, and reduce wastewater discharges, but are generally unlikely to offset existing potable water use.

Hunter Water is also exploring Purified Recycled Water for drinking that would supply recycled water to the potable water system.

Q4: How much potable water is still used on Kooragang Island for dust suppression and washing down coal?

R: Hunter Water can't provide specific customer information as it is commercial in confidence. However, if you approach the customer directly they may be willing to share data (including their efforts to reduce potable water consumption).

For general information, all coal loaders on Kooragang Island capture stormwater from across their site and store in large onsite storage dams. They then treat and re-use the stormwater for dust suppression and top up with potable water only when required. Hunter

Water have also worked closely with these customers over the last 8 years to look at water efficiency opportunities including recycled water viability.

It is also a requirement of current Level 1 water restrictions that drinking water only be used for dust suppression where alternatives are not available.

Q5: The CSIRO is promoting managed aquifer recharge schemes as a means to effectively store water in what could be regarded as underground dams. It has the benefits of being cheaper than dams, doesn't have evaporation losses, nor problems with algae blooms. The CSIRO is currently looking for towns and communities who would be interested in taking up such a project. Is HWC aware of this opportunity and will they consider such an option?

R: Hunter Water has been investigating the option of managed aquifer recharge in detail since 2017 and has been in discussions with the CSIRO. Through those discussions we have recently completed a project with the CSIRO linked to the Hunter Palaeochannel, which is a potential managed aquifer recharge site.

Q6: HWC storages are currently over 80% and have been 70% for 2 weeks. It appears that HWC are delaying the lifting of water restrictions to change community habits so that demand will be lowered for the long term. Comment? If a drought levy has been imposed, when will it be lifted?

R: While its pleasing to see drought conditions easing and our water storage levels increasing we still haven't returned to what we'd consider more typical operating levels for this time of the year. As we move in to the summer months which are typically hotter and drier, we want to make sure we're in the best position we can possibly be.

The Independent Pricing and Regulatory Tribunal (IPART) has introduced a drought price for the first time. This means that if water storages drop below 60 per cent total capacity, the cost of water would increase from \$2.46 per thousand litres to \$2.90 per thousand litres.

The price increase rewards people for saving water when it matters most. While there's a low chance of the drought price being applied, a 15 per cent reduction in water use would fully offset the costs, if it were to be introduced. The price also reflects extra costs associated with delivering water during periods of drought such as higher treatment costs associated with the operation of the Tomago Sandbeds and increased water conservation initiatives.

The drought price would cease when water storages return above 70 per cent total capacity.

Q7: Will HW provide a detailed update, analysis and costings to the meeting of the major supply augmentation options being considered for the LHWSP? What additional yield would each option contribute to the water supply system?

R: Detailed analysis and costings of the major supply augmentation options are not yet available. Hunter Water is still working through a number of studies to produce this information. It is intended that this information will be shared with the CLG when it is available.

Q8: In the Greater Hunter Regional Water Strategy 2018 it was stated: *'The population within the HWC's area of operations is expected to reach around 701,000 by 2036. The current water supply system can supply an average of around 76,000 ML/year to the people of the Lower Hunter. Taking into account the forecast increase demand for water due*

to population growth, it is expected there will be enough water to supply the lower Hunter area until 2037–38 under typical climate conditions. The yield of 76,000 ML/year is based on current water sources, water access/transfer rules and the existing transfer capacity constraint from the Central Coast. With increased northward capacity and Mangrove Creek Dam at full operating level, the yield is estimated at 79,000 ML/year.

When will this Central Coast pipeline project be complete and this increase in yield predicted to occur? And, would the proposed inter-regional Singleton pipeline result in a similar increase in yield?

R: Hunter Water has completed works within its system to receive increased northward transfers from the Central Coast, and works on the pipeline within the Central Coast Council area are underway with an expected completion date mid-late 2021. Works to restore the full storage capacity of Mangrove Creek Dam are still in the planning phase. While it is unlikely that the full yield benefit of this scheme will be realised for another 4 to 5 years, the LHWSP review that is currently underway treats the starting or base case system as if the pipeline and dam works are complete.

Unlike the Central Coast pipeline, a new pipeline between Hunter Water and Singleton Council would primarily benefit Upper Hunter water users by reducing Singleton's demand for water from Glennies Creek Dam.

The Greater Hunter Regional Water Strategy also identifies a possible pipeline connection between Glennies Creek Dam and Lostock Dam, as this project would provide mutual benefits to both regions. It is understood that the concept for this scheme would provide yield benefits to Hunter Water in the order of 8-12 GL/yr. Hunter Water is working alongside other stakeholders (Water NSW, relevant councils, the Department of Planning, Industry and Environment, and Infrastructure NSW) on these interregional opportunities.

Q8: Can HWC provide a breakdown of the yield for each of its current water sources?

R: The amount of water that each source supplies at any point in time is a function of climate and a set of optimised operating rules that are designed to minimise the risk of water shortage for the scheme as a whole. Supply from Chichester Dam, for example, is maximised under average to wet conditions to make best use of reliable inflow at these times and to save water in the other sources. Being a small dam, however, supply from Chichester needs to be reduced during dry conditions to ensure that the dam does not run out of water (as it is operationally required to supply a number of communities in the Dungog LGA).

In converse, supply from the Tomago Borefield is minimised under average to wet conditions so as to maximise the chance that it is reasonably full during dry conditions. Supply from Grahamstown Dam makes up the remainder and, being Hunter Water's largest storage, it provides the bulk of Hunter Water's supply in a protracted drought.

As Hunter Water's storages work together as an interconnected system, it is not useful or helpful to calculate individual yields and consider each part as a standalone component. The strength of Hunter Water's scheme is that the sources are combined such that the overall yield is significantly greater than the sum of the components if they were each considered as standalone sources.

In general terms, Grahamstown Dam provides around 50% of the Hunter's potable water, Chichester Dam 40% and the Tomago and Tomaree sandbeds 10%.

Q9: How much water has HWC extracted from the Tomago Sand beds between 14 February and 14 July this year?

R: 7,059 ML

Q10: For the CCAG Meeting I would be interested in an update and comparison of the OHP presentation from May 2018 (below) to the present, to see progress in those areas, including whether Lower Hunter ratepayers are still using 10% more water than the National average.

R: The performance of Hunter Water (and other water utilities) is reported annually by the Commonwealth Government in the National Performance Report:

<http://www.bom.gov.au/water/npr/>

The most recent report documents that:

- **Leakage:** Hunter Water's leakage rate was 79 litres per connection per day (down from a high of 104 litres per day in 2015-16). Hunter Water's significant improvement is as a result of an aggressive leakage reduction program, including relining of major reservoirs, active leak detection on more than 100% of its water network each year, and the use of innovative technology including TaKaDu and drone trials.

For comparison, in 2019, the average leakage rate of all utilities was 98 litres per connection per day.

- **Consumption:** In 2019, Hunter Water supplied residential customers an average of 175 kL of drinking per year (down from 181 kL per year). This compares with a sector average of 196 kL per year (for large and major water utilities).

While there is room for continued improvement, Hunter Water customers do not use 10 per cent more than the national average (Hunter Water customers currently use 11 per cent less than the national average). However, as the graph below shows, Hunter Water customers do use approximately 10 per cent more water than the best performing Australian utilities (~150kL per yr).

Hunter Water is working with all customers to further reduce consumption, including as part of its ongoing 'Love Water' campaign.

Hunter Water has consistently confirmed that conservation will be a focus of the Lower Hunter Water Security Plan.

Water supplied to residential customers (kL per year)

