Drought Management Plan Update

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Recommendation:

That Council:

1. Receive and note report.
2. Support the implementation of an interim drought management response based on the existing Drought Management Plan (2016).
3. Endorse the adoption of the proposed Interim Water Restrictions System, as outlined in the report.

Background

Rous County Council currently has in place a Drought Management Plan developed by Hydrosphere Consulting Pty Ltd in 2016. This Plan, which was formed in consultation with the Regional Water Supply Liaison Committee (Rous and constituent council staff), was implemented during the 2019/2020 drought.

Drought management plans are typically scheduled to be updated every 5 years. As such in 2021, Council invited quotations from suitably qualified consultants to develop a new Drought Management Plan, which was subsequently awarded to Hydrosphere in August 2021.

Hydrosphere was commissioned to:

- Prepare an updated Regional Drought Management Plan (Drought Management Plan).
- Review of existing information
- Gap analysis and evaluation of recent drought and review of local Drought Management Plans
- Modelling to determine impact to secure yield assessment
- Compliance with NSW Best Management Practice Guidelines for Water Supply
- Review restrictions levels
- Water restrictions review
- Review emergency supply options and recommendations
- Review Operational Readiness
- Develop a new water restrictions communication plan
- Associated consultation and stakeholder engagement

Due to uncertainty regarding the availability of the Woodburn bores and future water sources, Hydrosphere was instructed to stop work on the Drought Management Plan development in November 2021. In February/March 2022, the catastrophic floods resulted in widespread disruption to the region including significant damage to the Wilson's River Source (WRS), a key component of Rous's water supply system and drought preparedness plan.

The development of a new Drought Management Plan was restarted in May 2023, when Council approved the re-starting of the project. The proposal included additional modelling to understand the progression of a critical drought. The additional modelling proposed to use Council's existing Goldsim model.

Infrastructure damage and impact on drought readiness

Damage to the Wilson's River Low Lift Pump Station and the electrical switchboard, meant the site was rendered inoperable.

The WRS was developed in 2007 as a response to millennium drought of 2002/2003. It provides significant mitigation to drought and is intended to be operated when Rocky Creek Dam (RCD) reaches 95%. With the delays in the repairs to the WRS infrastructure, the opportunity to utilise the source as per the Drought Management Pan has passed, due to the constraints of the licence conditions.

Staff have been working with NSW Public Works on the reinstatement of the WRS to its pre-flood condition, which will be achieved around the middle of 2024. In the meantime, staff have been working on an interim solution which will return the water source to an operational status by October 2023. This will enable Rous to take advantage of any rainfall events and extract water if the licence conditions enable this to occur.

In addition to the WRS being inoperable, planned maintenance conducted on the Emigrant Creek Water Treatment Plant (ECDWTP) identified unexpected defects requiring more involved repairs. These repairs have meant that the scheduled maintenance has been extended longer than planned. ECDWTP is expected to be operational in early October 2023. Whilst this has not impacted the water level in Emigrant Creek Dam (ECD) it has meant that there has been an additional drawdown of water from RCD, whilst ECDWTP has been offline. This additional drawdown coupled with the inability to augment the supply from WRS has contributed to the depletion of the RCD supply recently.

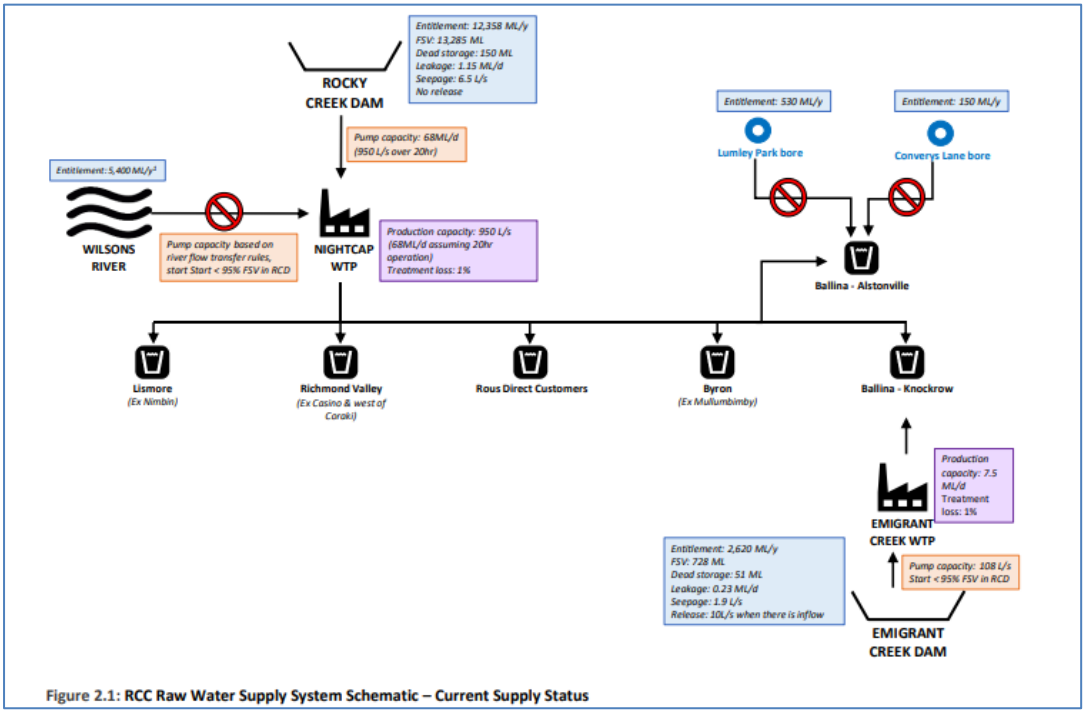

Figure 2.1: **RCC Raw Water Supply System Schematic – Current Supply Status**

The current status of water supply infrastructure is also indicated on Figure 2.1.

Proposed actions

In August 2023 Council staff received the modelling that had been undertaken as part of the preliminary work for the new Drought Management Plan.

The modelling compared the baseline performance of Rous's bulk supply network, both pre-flood damage and the current situation as of July 2023. The modelling compared how different drought mitigation strategies might extend Rous's water supply under severe drought scenarios. This modelling helped to inform the impact that various adjustments to supply and demand have on the system.

Given the indications of a dryer and hotter summer ahead, coupled with compromised water supply infrastructure, staff began reviewing drought readiness preparations, inclusive of the relevant restriction regime, informed by the updated modelling.

Given the above considerations, staff have developed the following recommendations.

Recommended actions

- Restoration of dry period water sources to full operation as soon as possible.
- Identify additional infrastructure and treatment requirements for the Marom Creek, Alstonville Plateau and the Clarence Moreton Basin bore supplies with the aim of supplying the Alstonville and Wollongbar areas from these supplies, under extended drought conditions.
- Identify additional treatment requirements for Woodburn groundwater with the aim of utilising this source as a drought supply.
- Investigate options to access lower flows in Wilsons River as an emergency response.
- Undertake increased effort to reduce water losses if a drought progresses.
- Support the constituent councils to effectively enforce restrictions to ensure demand reduction targets are met.
- Engage a Drought Communications and Engagement Officer to support the implementation of drought readiness and response in consultation with constituent councils.
- Adopt an Interim Restrictions Regime to offset the lower water security - Level 1 restrictions brought forward to 70%, rather than the current 60%.

***Current* Restrictions** (Drought Management Plan-Hydrosphere consulting in 2016)

Restrictions	Everyday water saving measures	Level 1: Moderate	Level 2: High	Level 3: Very High	Level 4: Severe	Emergency
Trigger to introduce restrictions	-	RCD = 60%	RCD = 45%	RCD = 30%	RCD = 20%	RCD = 10%
Target reduction in demand	0%	5%	15%	25%	35%	45%
Average daily target demand (ML/d)	33.5	31.8	28.5	25.1	21.8	18.4

***Proposed* Interim Restrictions** (Interim Water Restrictions System - 2023)

Restrictions	Everyday water saving measures	Level 1: Moderate	Level 2: High	Level 3: Very High	Level 4: Severe	Emergency
Trigger (RCD percentage of full supply capacity)	-	**70%**	**60%**	**50%**	**35%**	**15%**
Target reduction in demand	0%	7.5%	15%	22.5%	30%	37.5%
Average daily target demand (ML/d)	36.3	33.6	30.9	28.2	25.4	22.7

The trigger to revert to the 2016 Drought Management Plan restrictions will be when the RCD level returns to 95%.

Finance

Within the 2023/2024 Budget, a standard provision of $23,000 was made for general Drought Management costs which would include items such as advertising, printed collateral and signage. Additionally, provision was made to support the temporary appointment (6 months) of a Drought Communications and Engagement Officer to assist with the implementation of drought readiness, community education and response actions.

Consultation

The draft Interim Water Restrictions System was discussed at the Regional Water Supply Liaison Committee on 24 August 2023. The representatives of the constituent councils at that meeting recommended that Rous obtain endorsement of the interim arrangements as promptly as possible to facilitate a generous period for communication with the community.

A summary presentation outlining the Interim Water Restrictions System and Council staff recommendations was provided to Council at their workshop of 20 September 2023.

Conclusion

The Bureau of Meteorology has declared an El Nino and the Department of Primary Industries has classified most of the northern region of NSW as drought affected. The current climatic conditions coupled with Council's compromised infrastructure, means that a dynamic approach to Drought Management is required.

Council's endorsement is therefore sought for the adoption of the Interim Water Restrictions System. These interim restrictions will help ensure the provision of water to the region in a manner most closely aligned with the pre flood conditions, before the WRS was damaged. These enhanced restrictions will remain in place until such time as all water supply infrastructure is fully functional and RCD has returned to above 95% capacity.