Submission No 59

INQUIRY INTO RATIONALE FOR, AND IMPACTS OF, NEW DAMS AND OTHER WATER INFRASTRUCTURE IN NSW

Organisation: Tamworth Regional Council

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Tamworth Regional Council

Submission to the NSW Legislative Council Portfolio Committee No 7 – Planning and Environment

INQUIRY INTO THE RATIONAL FOR, AND IMPACTS OF, NEW DAMS AND OTHER WATER INFRASTRUCTURE IN NSW

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Table of Contents

1 Background

Tamworth Regional Council supplies treated potable water to approximately 55,000 residents and businesses across 6 separate water supply schemes as shown below;

Centre	Primary/Secondary Water Sources
Tamworth/Moonbi/Kootingal	State owned - Chaffey Dam Council owned - Dungowan Dam Scott Road Drift Wells
Nundle	Peel River Emergency Fractured Rock bore
Bendemeer	Macdonald River Emergency Fractured Rock Bore
Manilla	Unregulated Namoi River State owned – Split Rock Dam
Barraba	State owned Split Rock Dam Emergency Fractured Rock Bore
Attunga	Peel Alluvium Bore

Whilst water security is critical for all centres Council provides treated water to, this submission will concentrate on water security as it relates to the City of Tamworth.

Tamworth is the largest centre in the North West of NSW. With a current population approaching 50,000, Tamworth has enjoyed sustained population growth over the last 15 years. Tamworth Regional Council has recently adopted a growth strategy titled Blueprint 100 which has as its goal a population in Tamworth of 100,000.

The North West of NSW is on the tail end of the worst drought since records commenced which saw Level 1 restrictions introduced in Tamworth on 14 January 2019 and level 5, the most severe level of restrictions under Council's Drought Management Plan introduced on 23 September 2019. Thanks to some welcome rain in the 2020 the drought has receded somewhat but the level of Chaffey Dam has only recovered enough to allow the easing of restrictions from level 5 to Level 4 on 31 August 2020. Under level 4 and 5 no treated water is able to be used outdoors.

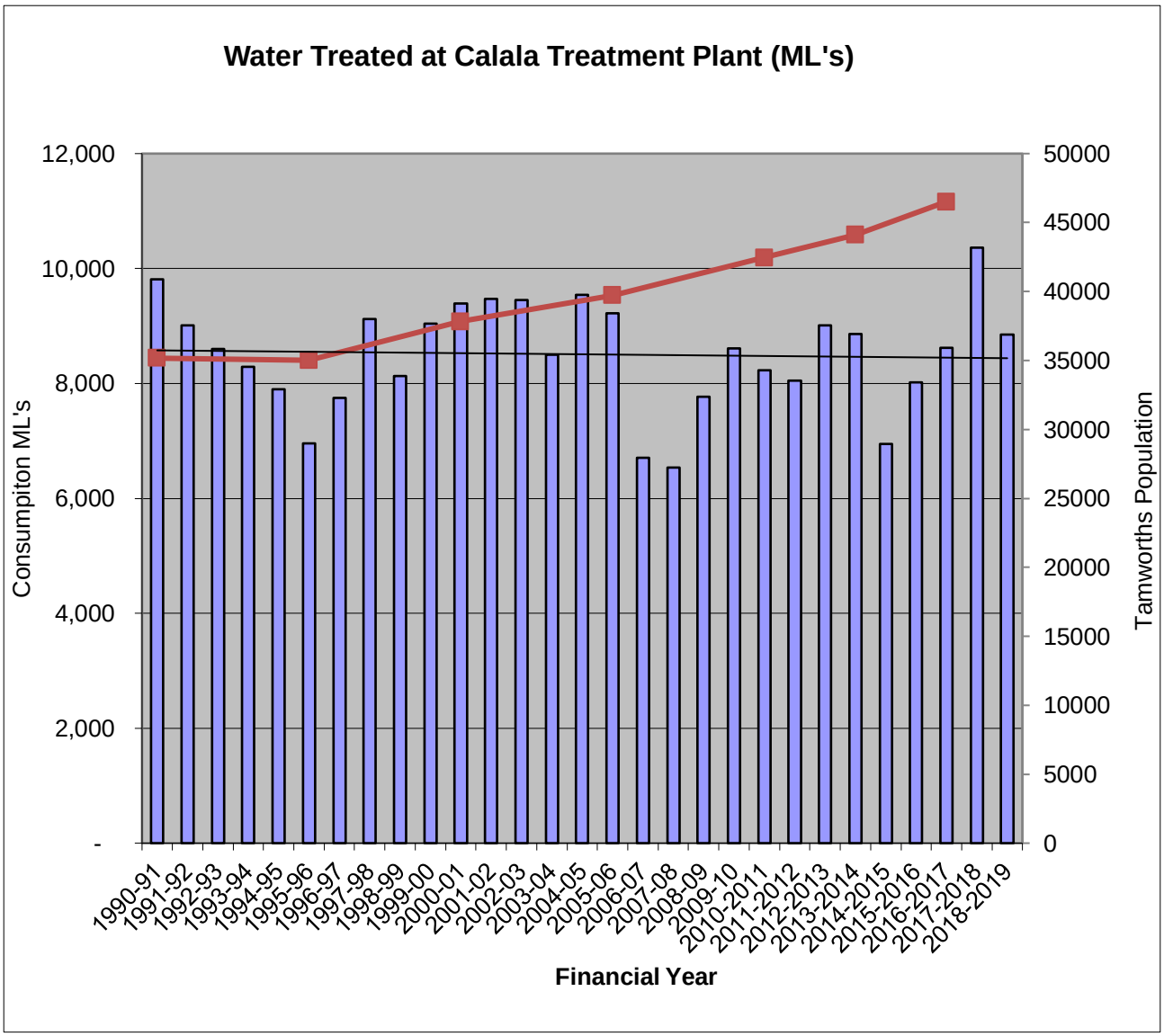
Tamworth also experienced level 5 water restrictions in 2006/2007.

Without improved water security Tamworth cannot grow. Council has anecdotal evidence that businesses and residents are choosing to go elsewhere because of the severity and frequency of water restrictions in Tamworth.

There are 2 ways to improve water security – by reducing demand for treated water and/or by increasing the supply of water available.

2 Reducing Demand

Since the drought of 2006/2007 Council has employed a full time Water Sustainability Officer whose primary focus is better communication and education in relation to the conservation of treated water. Over $3 Million has been expended on various initiatives to reduce the demand for treated water. The graph below of annual water consumption in Tamworth versus population shows Council has been very successful in this regard, with average annual water consumption not increasing despite significant increases in population.



3 Increasing Supply

There are two primary ways to increase the volume of water available to a City or town. Allocate more of the available water to the towns use, reserve more of the available water for the towns use and/or increase the volume of water available for use.

3.1 Allocate more water in the Regulated Peel River Source

In the Peel Valley the regulated Peel River downstream of Chaffey Dam is already many times over allocated, and as a result, without purchasing the allocation from other existing consumers there is no further water to allocate to town water supply in the Peel Valley

3.2 Change the way the water is shared

The way the existing water supply is shared between the various competing demands is governed by the Water Sharing Plan. Council believes the present Water Sharing Plan that governs the sharing of water in the Peel Regulated River system is flawed and the following changes, as detailed below, be made to increase the security and reliability of the supply for Tamworth;

Clause 48 – Minimum Daily Flow Rules - The Operator is required to ensure a minimum daily release of three Megalitre (ML) is made from Chaffey Dam.

As previously reported to Council an interim approval has been issued by the NSW Government in relation the operation of the new Chaffey Dam Pipeline. This interim approval allows for the three ML per day environmental releases, detailed in the Peel Water Sharing Plan, to cease when the storage level falls below 20%. Instead the water that would have been released is stored for release to address environmental issues as and when they arise.

Given Chaffey Dam storage is now above 20% the daily three ML releases have recommenced.

Council has advocated that the arrangement put in place as part of the interim approval should be put in place permanently, regardless of storage volume and the three ML per day release be stopped.

Clause 52 – Maintenance of Water Supply – the lowest period of accumulated inflows is listed as prior to 1 July 2010.

Annual allocations for water are made in part by looking at the historical inflows into a storage and assuming that level of inflow will occur over the next 12 months. At present in the Water Sharing Plan for the Peel River the inflow figures to be used are stipulated as up to 1 July 2010.

As detailed earlier the drought in the North West of NSW has been described as the worst on record. Obviously, inflow figures during the drought have reduced significantly and if the most recent inflow figures where included in the calculation of annual water allocation future allocations wold be reduced. However, the NSW Government has decided the Peel Water Sharing Plan in the future will continue to use inflow figures up to 1 July 2010 and exclude all the inflow figures (good and bad) since.

Council believes the period used to calculate inflows should be extended out to 1 July 2020, to include the latest drought of record.

Division 5 – Available Water Determinations (AWD)

The Water Sharing Plan is supposed to detail the rules relating to how water is shared in the Peel Valley. Council does not believe the WSP contains enough detail in relation to just how this is done, in particular around the assessment of Available Water Determinations (AWD).

From discussion with DPIE staff responsible for calculating the AWD, the following broad process is followed:

Steps	**Issues**
1 In April/May each year – the volume of water left in the storage in Chaffey Dam is identified	
2 The volume in one is then reduced by	
a) 100% of Town Water Supply entitlement in year one and 70% in year one (there is only one such license in the Peel – to supply Tamworth Moonbi and Kootingal	The WSP does not mention year two at all
b) An allowance for stock and domestic	No detail of this in the WSP
c) Allowance for Basic Land holder rights	No detail of this in the WSP
d) Allowance for minimum releases	No detail of this in the WSP but assumed it includes three ML per day as detailed elsewhere in the WSP
e) Other high security entitlements	No detail of this in the WSP. Do High security licenses receive 100% of their entitlement in year one and something else in year two
f) An allowance for instream losses and operating losses	No detail of this in the WSP
3 Plus an allowance for inflow over the next 12 months	No detail in the WSP. Advice is future inflows are the worst 12 months inflow for the first year and the second year includes residual of the worst 24 months inflow. Presently these inflows are based on historic figures up to 30 June 2010.
4 The amount set aside in 2 a) is then reduced by considering the volume of water stored in Council's Dungowan Dam and making some assessment of how much of the water for Tamworth's needs will be supplied from Dungowan, reducing the volume set aside in Chaffey for this purpose.	No detail in the WSP. How can this be considered when the dam is Council owned and how Council uses the water stored in the dam is up to Council and any license conditions. If the volume set aside in Chaffey Dam is based on Council's entitlement why would the amount of water stored in Dungowan Dam alter this figure?

Steps	Issues
What is left is then used to calculate the AWD for general security	

The table demonstrates the majority of the criteria included in the calculation of AWD's are not detailed in the current Water Sharing Plan, so how the NSW Government contends water is shared in accordance with the rules detailed in the relevant WSP is questionable. The lack of detail fosters suspicion that the process can be altered to suit circumstances or other agendas and outcomes.

Change the WSP to allow the provision of 100% of Council's entitlement in year 2 and 100% of Council's entitlement in year two during the AWD process.

Even if, as suggested, the AWD process includes 100% of Council's entitlement in year 1 and 70% of Council's entitlement in year 2 Council has adopted a position requesting the year 2 allowance be increased to 100%.

To date the NSW Government has not agreed to any of the changes requested by Council.

3.3 Provide additional supply through infrastructure

In conjunction with reducing demand for water and/or changing the way existing water is shared security can also be enhanced by increasing the volume of water available to be shared. These options primarily involve the delivery of infrastructure, usually on a large scale. The City of Tamworth has benefited previously from infrastructure projects such as the augmentation of Chaffey Dam and the constriction of the Chaffey Dam pipeline.

One such infrastructure project is the construction of a new Dungowan Dam.

4 New Dungowan Dam

The new Dungowan Dam will replace or augment the existing Dungowan Dam. It will be located approximately 5 kilometres downstream of the existing dam and have a proposed storage volume of 22,500 Megalitres. Th existing dam has a storage volume of 6,300 Megalitres. The new Dam will provide water to the Calala Water Treatment Plant which provides treated water to the City of Tamworth via a new pipeline with significantly greater that capacity than the existing pipeline.

4.1 Alternatives

In 2015 Council engaged Hunter H2O to complete a high-level assessment of long-term augmentation options for Tamworth's bulk water supply. 24 options were investigated including the following;

- Surface Water / Dams Options
    - Chaffey Dam Options:
        - Pipeline from Chaffey Dam to Tamworth
        - Chaffey Dam Augmentation (120 GL)
        - Modify resource assessment to consider full 16.4 GL entitlement
        - Purchase additional water entitlements

    - Dungowan Dam Options:
        - Dungowan Dam augmentation
        - Dungowan Pipeline augmentation
    - Off-River Storage Options:
    - Small raw water storage at WTP (100 ML)
    - Large bulk water storage upstream of Tamworth (10 GL)
    - New On-River Storage Options:
        - Swamp Oak Creek Dam
        - Mulla Creek Dam
    - Transfers for Other WaterNSW Dams Options:
        - Split Rock Dam Pipeline
        - Keepit Dam Pipeline
    - Inter-Basin Transfer Options:
        - □ Apsley River Scheme
        - □ Barnard River Scheme
- Groundwater Options
    - Peel Alluvium aquifer
    - Peel Fractured Rock aquifer
    - Mooki Valley Aquifer
- Recycled Effluent Options:
    - Rural Substitution
    - Non-potable Substitution
    - Indirect potable reuse
    - Managed aquifer recharge
    - Direct potable reuse
- Stormwater Reuse
- Sewer Mining

The results of the high-level investigations indicated the following 4 options warranted further investigation;

- Keepit Dam Transfers
- Upgrade Dungowan Dam
- Off River Storage for Tamworth
- Augmented Groundwater

4.2 Climate Change

Predictions of the effect of climate change in the North West of NSW vary considerably, some say more rain but in less frequent heavier events, others say less rainfall. Regardless of the projections and what actually occurs in the future, there can be no doubt that capturing water for use during subsequent dry periods is an important component in the drive to provide more water security to all users. The new Dungowan Dam will do this.

4.3 Environmental Issues

Council understands that dams can have a negative effect on the environment. However, this effect must be balanced against the need for improved water security. In the case of the new Dungowan Dam it is expected that the new Dam will have license conditions imposed which will require water to be stored and released to address environmental concerns. Other than a requirement to release certain volumes of inflow the existing Dungowan Dam has no other license

conditions relating to the environment, so it could be argued the new dam will be better for the environment than the existing dam.

5 Conclusion

Council does not expect improved water security for Tamworth to be no water restrictions imposed in the future, but it does believe that to allow Tamworth to continue to grow and prosper, which will be of benefit, not just locally and across the region but to NSW, the current frequency and severity of restrictions must be reduced, whilst providing sufficient water to cater for increased growth.

Additional water storage such as the new Dungowan Dam is a critical component in providing this greater water security.

The construction of the new Dungowan Dam and associated pipeline has the full support of Tamworth Regional Council.