November 2020

Water in the Lower Hunter

Planning our water future

Hunter Water is planning for our future now to ensure our region has a sustainable and resilient water system that can adapt and respond to change. We need to consider new sources of water (supply) and find new ways to reduce the water we all use (demand). This series of information sheets provide an overview of the potential water supply and demand option types we're discussing with our community as we plan our water future together.

Supply option: Water sharing between regions

What is it and how does it work?

Water sharing aims to move water across regions to where it is needed most through a network of pipes and pumps.

It optimises existing infrastructure to take advantage of variations in rainfall distribution and storage capacities.

What is currently in place in the Lower Hunter?

Hunter Water and Central Coast Council have an existing pipeline connecting the two regions. The pipeline can transfer water in either direction according to established water sharing rules.

The system offers mutual benefits to both systems with regard to drought security as well as operational benefits by reducing the impact of localised water outages.

Things we need to consider

This option allows water to be shared more efficiently. The reliability depends on the rainfall distribution across the connected regions and whether or not the connection can take advantage of the complementary strengths and weaknesses in the two systems.

Connecting a region with small storage and high yielding catchments to a region with large storage and low yielding catchments, for example, can be mutually beneficial to both regions.

Costs to construct can be moderately high depending on the distances involved between regions, length of pipework and associated storage requirements.

Operating costs are primarily related to pump costs and are relatively low compared to other options.

How we're considering this option for the Lower Hunter Water Security Plan

Two regional water sharing options are being considered in the Lower Hunter Water Security Plan which will take advantage of the existing characteristics between the geographic areas to transfer water to where it is needed most and improve the water resilience of the broader region.

These options also enable future possibilities should further water become available in the Upper Hunter or the Central Coast in the future

See **key results table** over page.

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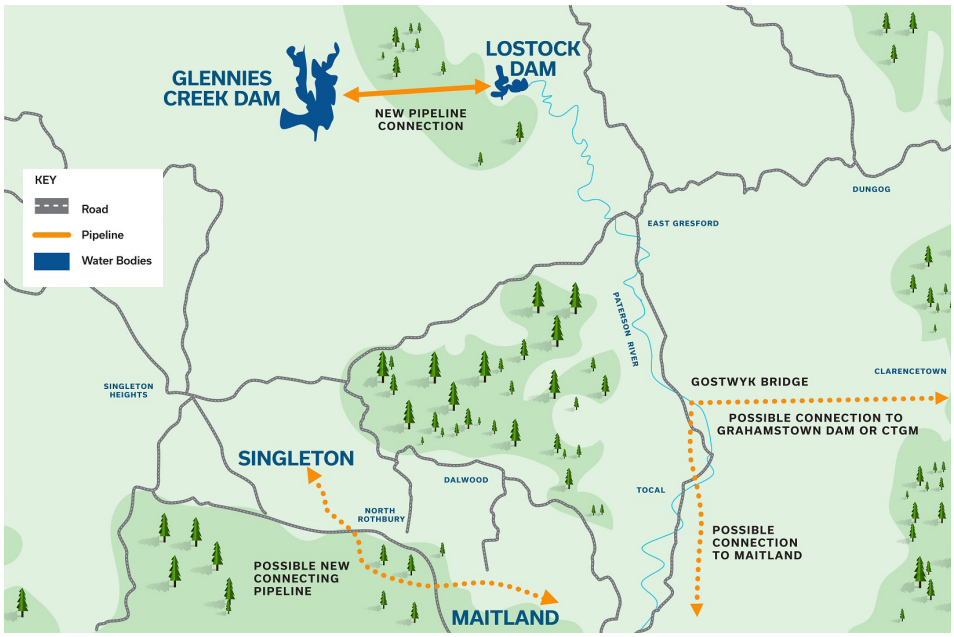
The Glennies to Lostock pipeline and connection to Hunter Water system involves constructing a two-way link between Lostock Dam and Glennies Creek Dam.

This link would provide mutual benefits to Upper Hunter water users and to the Hunter Water supply.

There are several options to connect this scheme to the Hunter Water system. Water could be transferred by pipeline to Grahamstown Dam, transferred to a new water treatment plant for treatment and supply to the Maitland area, or transferred to a new water treatment plant and added to the Chichester Trunk Gravity Main.

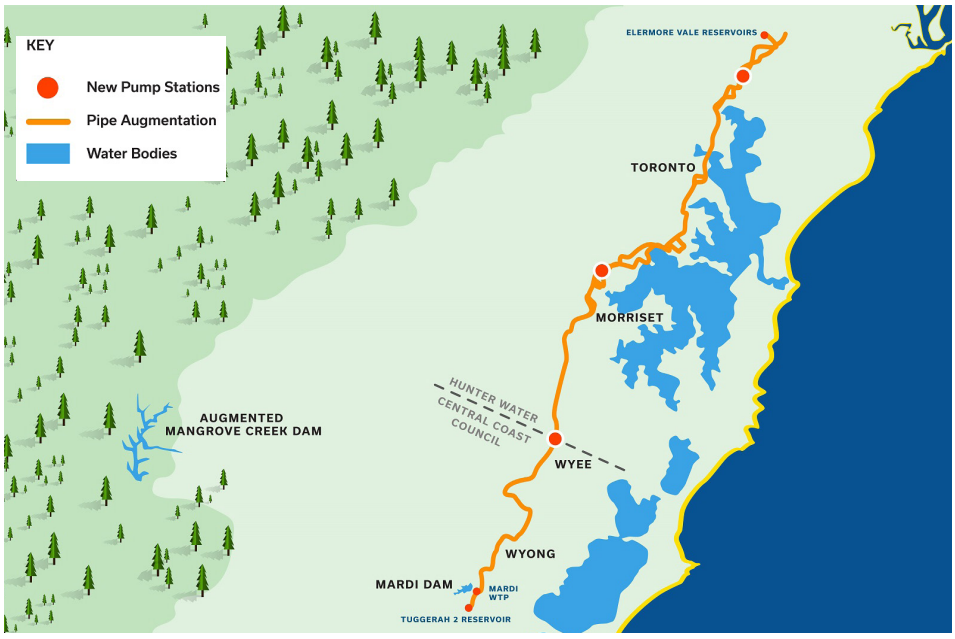
The option could also include connecting the Hunter Water system to Singleton.



Upper Hunter water sharing option

The Central Coast transfer upgrade involves upgrading the existing Central Coast transfer system to increase the capacity of flows that could be transferred between the Central Coast and the Lower Hunter.

The option involves augmenting the existing transfer pipeline as well as the capacity of Mangrove Creek Dam on the Central Coast to improve mutual benefits to the Lower Hunter and Central Coast.



Central Coast water sharing option

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Key results

The table below provides further detail about how this option is being considered in the plan.

	Central Coast sharing option	Upper Hunter sharing option
Additional sustainable supply	3 billion litres per year	10 billion litres per year
Indicative cost to build*	$110 million	$210 million
Indicative cost to operate	Less than $1 million per year	Less than $1 million per year
Comparative water supply cost**	$2.19 per kilolitre	$1.09 per kilolitre
Reliability and resilience	Increased storage improves the robustness of our system Improves the diversity of our supply system Relies on rainfall and does not ensure an ongoing supply in a long and severe regional drought	
Potential environmental impacts	Low-medium energy use and associated greenhouse gas emissions, unless offset Potential for biodiversity impacts from existing dam augmentation, pipeline construction and transferring water between different catchments	
Potential cultural and social impacts	Potential indigenous cultural heritage impacts for Central Coast transfer option based on investigations to date	
Timeframe for delivery	5-10 years	

** Hunter Water costs only*

*** The comparative water supply cost is an annualised cost that allows for comparison of options of varying scales and timeframes. The measure incorporates the whole-of-life cost to build and operate the option and the additional sustainable water supply the option provides. The measure does not assess the increment of demand served or the level of ongoing supply in a long and severe drought. Costs are indicative of 2020/21 dollars.*