



Central Brisbane Water Supply Scheme

Scheme submission to QCA

2020-21 to 2023-24

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1 Scheme Details

1.1 Scheme background and context

The Central Brisbane River Water Supply Scheme (the Scheme) is located along the Brisbane River from Mt Crosby Weir up to and including Wivenhoe Dam. The Scheme is regulated under the Moreton Water Management Protocol and managed under the Central Brisbane River Water Supply Scheme Operations Manual. The water year runs from 1 July to 30 June.

The Scheme consists of one irrigation tariff group, “Central Brisbane River”.

1.2 Infrastructure details

The table below sets out the bulk water assets, owned and operated by Seqwater, that comprise the scheme.

Table 1: Bulk water assets

Dams	Weirs	Off-stream storages	Other bulk water assets
Wivenhoe Dam, Somerset Dam	Mount Crosby Weir	Nil	Wivenhoe Tail Water Weir Gauging stations

Source: Seqwater (2018)

1.3 Customers and water entitlements serviced

Within the Scheme, Seqwater supplies raw water to 127 customers holding medium priority water allocations and one customer holding a high priority water allocation. Seqwater also holds an allocation which it uses for supply into its water treatment plants to provide treated water to its customers. The following table sets out the ownership of water allocations in the Scheme.

Table 2: Schedule of ownership of water allocations

Water allocation owner	Number of customers	Medium priority volume (ML)	High priority volume (ML)
Irrigation	123	7,074	-
Ipswich City Council	1	65	-
Somerset Regional Council	1	15	-
Lowood and District Golf Club	1	40	-
Glamorgan Vale Water Board	1	-	250
Seqwater	-	-	278,617
Total	127	7,194	278,867

Source: Seqwater (2018)

Note: Irrigation customers yet not be verified against the definition given in the Referral Notice

1.4 Water availability and use

1.4.1 Water availability

The announced allocation determines the percentage of nominal water allocation volume that is available in each water year. The following table sets out the announced allocations since 2013-14.

Table 3: Announced allocations history

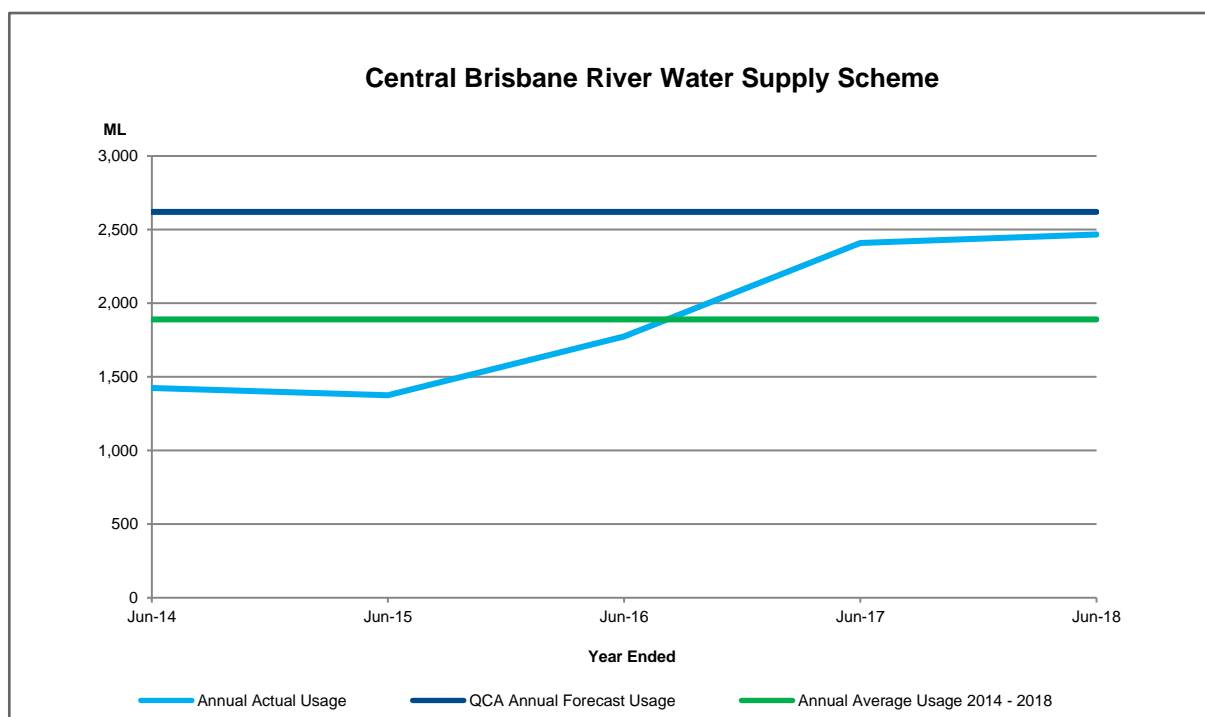
Priority	2013-14 %	2014-15 %	2015-16 %	2016-17 %	2017-18 %	2018-19 %
Medium	100	100	100	100	100	100

Source: Seqwater (2018)

1.4.2 Water use

Figure 1 below shows the actual water usage per year from 2014 to 2018. Also shown is the usage assumption adopted by the Queensland Competition Authority (QCA) for the 2013-17 price path (extended to 2019) which is 2,620 ML.

Figure 1: Annual irrigation water usage



Source: Seqwater (2018)

2 Central Brisbane Cost Allocation

2.1 Customer engagement

In preparation for this pricing review, Seqwater sought to engage with the Mid-Brisbane River Irrigators (MBRI) Committee which represents the majority of irrigation customers in the scheme. At the commencement of pricing engagement the membership accounted for 6100ML of the total allocation of 6771 ML. Discussions with this customer group identified the key issue that Seqwater could help address was to provide information about the extent of the service provided to these customers. The MBRI made submissions to the last QCA review that they did not receive a service from the scheme (representing the operation of the storages Wivenhoe and Somerset Dam) as water has been available for irrigation before the dams, and the dams were not constructed for irrigation supply. The MBRI view is that their response to the QCA Draft Report indicated they had not had their questions about the performance of the dams for irrigation sufficiently answered either through the QCA process last review or through other queries and issues raised in the planning and other processes with Government.

In the interest of resolving this question for the customers, Seqwater committed to fund an independent study to answer these questions and would use this as a basis for its pricing submission. This study is the focus of the submission for this scheme.

Several meetings have been held between Seqwater and MBRI over the course of the engagement in 2018:

- 14th February
- 20th March
- 20th April – included Strategic Advisor
- 4th June – included Strategic Advisor – selection meeting
- 30th July – included SLR and Strategic Advisor
- 17th September – included SLR and Strategic Advisor
- 25th September – MBRI AGM was attended by Strategic Advisor, not attended by Seqwater
- 23rd October – included Strategic Advisor
- 13th November

2.2 Background

2.2.1 Previous review

In the previous review the allocation of headworks-related costs between medium priority customers and high priority customers used the Headworks Utilisation Factor (HUF) which was a methodology developed by SunWater and adopted by the QCA.

In the previous review the initial calculation of the HUF for the Central Brisbane by Seqwater's consultant Parsons Brinkerhoff (PB) resulted in perverse outcomes. The MP WAE is about 2.5% of total WAE in the scheme, with the majority being for HP urban water use. The HUF is designed to take into account that more of the storage is used to supply HP water allocations and therefore should result in a smaller share of costs for MP customers than the proportion of WAE. The initial HUF calculated by PB was 69% which was understood by all involved to be unacceptable. PB then proposed an adjusted HUF of 2.1% which was further adjusted by the QCA resulting in its own allocation factor of 1.6% being applied to recommend prices for Central Brisbane.

The QCA made the following observations in its final report in relation to the allocation approach:

- accepts that the approach is simple, however, this reflects a lack of water use data for estimating a more nuanced cost allocation approach.
- the Moreton ROP specifies (by the water sharing rules) that MP WAE are supplemented by assets including Somerset and Wivenhoe dams. Specifically, the Moreton ROP describes announced allocations for the Central Brisbane River's MP WAE being conditional on the combined useable volumes of Somerset and Wivenhoe dams.

The QCA therefore concluded that *“According to the regulatory framework, therefore, a portion of the headworks is required to service irrigators. The Authority’s cost allocation methodology reflects a reasonable estimate of irrigator benefit (that is, 1.6% of costs in the Draft Report, where irrigators hold 2.5% of customer WAE)”*

The QCA relied upon the ROP regulatory framework of supplemented water representing the basis for customer receiving benefit¹. This has been challenged by customers as not being an appropriate basis for demonstrating benefit and has therefore been further considered by Seqwater in preparing this submission.

2.2.2 Referral notice

The referral notice provides explicit guidance to take into account cost allocation reviews for Central Brisbane and allows the fixed price to fall as a result of these reviews:

For the Central Brisbane River WSS, where cost allocations are reapportioned as anticipated in the Final Report, Seqwater Irrigation Price Review 2013-17, Volume 2, Central Brisbane River Water Supply Scheme, or as an outcome of wider cost allocation investigations with customers, the Fixed (Part A) price for the commencement of the price path period may be less than the prevailing Fixed (Part A) price.

Seqwater believes this guidance allows for further consideration of cost allocation including to what extent customers derive hydrologic benefit from the operation of the scheme.

2.3 Benefits study

Seqwater worked jointly with the MBRI to scope a study and select an independent consultant to undertake the analysis. Seqwater and the MBRI committed to submit a joint position for the pricing review based on the independent outcomes of the study. The study process has been open and transparent between Seqwater and the MBRI to further support the independence of the process.

SLR Consulting undertook an independent benefits study to investigate: to what extent do the irrigators in the mid-Brisbane zone derive hydrologic benefit from the existence and operation of the storages Wivenhoe and Somerset dams.

The study used DES's existing Integrated water Quantity and Quality simulation Model (IQQM), extended version, for the study area². The study then compared two cases and assessed hydrologic performance of the irrigation allocations in the mid-Brisbane zone. The two cases were:

¹ QCA Final Report Seqwater Irrigation Price Review 2013-17 Volume 2 Central Brisbane River Water Supply Scheme, April 2013, page 48 reads: *“Specifically, the Moreton ROP describes announced allocations for the Central Brisbane River’s MP WAE being conditional on the combined useable volumes of Somerset and Wivenhoe dams. According to the regulatory framework, therefore, a portion of the headworks is required to service irrigators.”*

² DES have asked Seqwater to note that: *“While the study used the model developed by DES, DES does not support or endorse the findings of this independent study. DES raised significant concerns regarding the methodology, assumptions used and interpretation of results in the study.”* DES were given the opportunity to provide comments on the draft study which were considered and led to some changes being incorporated by the independent consultant. However, these changes did not materially change the outcomes of the independent study.

- Existing case – current full entitlements model which includes the two dams (Wivenhoe and Somerset) and the existing regulation of operations of these dams
- Without Wivenhoe and Somerset Dams and associated operations – current full entitlements model with Wivenhoe and Somerset Dams and high priority water supply removed.

The study compares key statistics of performance over these cases and for both the full simulation period (1889 to 2011) and for the lowest diversion periods which are to align with a critical period which represents the lowest volume of total diversion supplied in a 15 year period. This critical period is used in the HUF methodology which is used in other schemes across Queensland to understand the extent of hydrologic benefit during a dry period.

The report's key findings, in summary, are:

- On a long term basis the irrigators are predicted to receive no significant change to the hydrologic benefit from Wivenhoe and Somerset Dams (with the associated operations and entitlements) when assessing long-term averages;
- Over the critical period, being the 15-year period of lowest diversion, the irrigators modelled hydrologic benefit from the Wivenhoe and Somerset Dams (and the associated operation and entitlements) was less than that under the Without Wivenhoe and Somerset Dams case.
- The effect of the dams – coupled with the operational and access rules that are applied to irrigators within this supplemented system – effectively quarantine the flows in the river primarily for urban water supply in critically dry periods.

The study concludes that:

using the existing department's IQQM model (including its key assumptions, limitations and extended to include the recent driest period of record), Wivenhoe and Somerset Dams (and the associated operational and entitlements) provide Central Brisbane Irrigators with no significant change to modelled hydrologic benefit, when compared to the predicted access under a hypothetical scenario where irrigators were able to take water from natural river flows and where there were no dams and system regulation for urban purposes. The effect of the dams – coupled with the operational and access rules that are applied to irrigators within this supplemented system – effectively quarantine the flows in the river primarily for urban water supply in critically dry periods. This results in less water being available to the irrigators in a very dry period than is predicted to be available under the natural flow regime in the river in the hypothetical no-dam no-urban water supply scenario.

Based on the joint commitment with the MBRI and the finding of the independent study that the irrigators do not receive a hydrologic benefit from the scheme, accordingly Seqwater submits they should not contribute to recovery of the headworks related costs or shared scheme operations costs, and therefore 100% of the scheme costs would be allocated to urban users. This is consistent with the beneficiary pays approach to cost allocation. While not explicitly stated by the QCA in the previous review, it appears the QCA applied a beneficiary pays approach, particularly in its consideration of HUF, and although was also a factor in its consideration of other issues (e.g. risk allocation, allocation of losses, renewals annuity, allocation of meter costs, removal of catchment and water quality activities). In the Volume 1 report setting out the principles of cost allocation the QCA noted: *“the Authority agreed that expenditure on assets that do not confer an irrigation benefit (e.g. urban domestic supply) should not be allocated to irrigators. Consequently, the Authority examined Seqwater’s renewals costs and ensured that only costs relevant to irrigation are included.”* (Page 142 vol 1)

The QCA's Statement of Regulatory Pricing Principles (August 2013) includes a discussion of cost allocation and fairness with respect to common costs. The paper notes common costs are those costs for which there is no clear causation basis for allocation to the services benefiting from them. While this case was not envisioned in the paper, it notes division of common costs according to the share of benefit.

The benefits study commissioned by Seqwater jointly with the MBRI would therefore be a relevant consideration for the cost allocation to irrigation customers in the Central Brisbane scheme.

An alternate approach to cost allocation is to use the impactor pays approach, Seqwater notes if this approach was used this would very clearly not allocate costs to irrigation customers as the Wivenhoe and Somerset dams

were not constructed for irrigation supply and therefore irrigators could not be assessed as impactors to their costs.

2.4 No change to regulation

Seqwater also notes that while this study concludes no hydrologic benefit of the scheme for the MP irrigation customers, this does not necessitate any change to existing regulatory framework. For example, the ROP, water entitlements, water sharing rules and the associated operation of – and regulation of access within – the scheme will continue.

2.5 No precedent for other schemes

Seqwater and the MBRI consider this approach sets no new precedent for rural water in Queensland and is consistent with accepted pricing principles.

Central Brisbane is unique amongst all supplemented water supply schemes operated by SunWater and Seqwater in Queensland in that that it is a large catchment supplying only a very small fraction of water entitlement for irrigation use. In the mid-Brisbane scheme, the total nominal volume of medium priority water allocations divided by the total nominal volume of medium and high priority allocations is around 2.5% ($= 7,376 / (7,376 + 279,000)$).

Moreover, the above study findings are highly unlikely to be replicated in other water supply scheme. Even in schemes with low reliability water entitlements, the performance of those entitlements would be expected to have been improved as a result of the storages that comprise the scheme, compared to having no storage in place. Indeed, the construction of all irrigation storages in Queensland were premised on improving irrigation in the local area.

In addition, nearly all other schemes have a substantial proportion of irrigation entitlements which need to be supported by a dam compared to the Mid-Brisbane where irrigation entitlements have been shown to not derive hydrologic benefit from the dams according to the independent study. In the mid-Brisbane scheme, the volume of medium priority water allocations is a very small proportion of the total volume of water allocations supplied by the scheme which has always easily been able to be met from the relatively small but reliable baseflows that have been shown to naturally occur in this system.

The Central Brisbane medium priority allocations are a small part of a large scheme designed primarily for urban use and were granted medium priority allocations as part of the scheme entitlements and operations. Unlike other schemes of this sort, the medium priority allocations are not a material proportion of entitlements and the independent study has found these allocations do not derive hydrologic benefit from the storages and their operations.

2.6 Proposed cost allocation

The conclusions of the study present there is no hydrologic benefit for the MP irrigation customers from the scheme, therefore on this basis Seqwater submits that these customers should have no share of scheme costs. That is, Seqwater submits that the cost allocation for irrigation customers should be 0% for the headworks related costs and also that other scheme costs should not be allocated to irrigation customers. As a result, 100% of the costs of the scheme are attributable to bulk water services, and would be included into the cost base for bulk water prices at the next urban bulk water price review. The impact on these prices will be negligible³.

The benefits study focussed on the mid-Brisbane zone of the scheme. Seqwater has one irrigation customer in the Brisbane zone. Trading rules currently do not allow for more water to be traded from the mid-Brisbane to the Brisbane zone. Seqwater believes the findings of this study would also apply to the Brisbane zone and it is

³ Seqwater estimates the impact of Central Brisbane scheme costs being fully recovered from the urban water sector would have minimal impact on Seqwater urban bulk water prices, increasing prices by around 0.02%.

therefore proposed that all MP irrigation customers are treated in the same way with no allocation of scheme costs. This would apply if water traded from the Mid-Brisbane zone into the Brisbane zone.

However, Seqwater does incur costs directly for the irrigation customers, such as the costs of meter reading, and water accounting. Seqwater submits that these costs are attributable to irrigation customers, on the basis that these are avoidable costs if Seqwater did not have irrigators in the Central Brisbane scheme.

Seqwater proposes that these services alone are not bulk water supply services and therefore do not fall within the declaration for Seqwater's monopoly services to be regulated by the QCA, these could therefore be treated as other service charges within the water supply contracts between Seqwater and customers and therefore not required to be reviewed by the QCA. This would be subject to legal advice to confirm this interpretation.

Subject to the above proposal to allocate zero scheme costs to irrigators in the Central Brisbane being accepted, Seqwater also proposes that these costs should not be priced in the same way as the two-part tariffs are applied in other schemes, that is, not according to volume of allocation. Rather these costs are incurred based on customer numbers. For example, regardless of the size of a customer's allocation, the reading of meters incurs the same cost. Therefore, Seqwater proposes these costs be recovered through a minimum charge for each customer. Should Seqwater's proposal for zero bulk water supply costs be accepted by QCA and then by Seqwater's Responsible Ministers, Seqwater would then set its own other service charges in consultation with customers. If the above proposal to allocate zero scheme costs to irrigators in the Central Brisbane is not accepted, this would require Seqwater to provide additional information to the QCA in a subsequent submission to allow for the costs for these services to continue to be recovered through the existing water supply charges.

Seqwater will continue to consult with customers on the approach to recovering the costs associated with these other services.

The MBRI consider the fees for service principles proposed by Seqwater are a practical solution and are happy to work further with Seqwater in consultation to develop appropriate fees.

2.7 Conclusion / proposal

Seqwater proposes the following for irrigation customers in the Central Brisbane River Water Supply Scheme:

- No share of headworks related costs or shared scheme operations costs should be sought to be recovered from irrigation customers
- Subject to the above proposal being accepted by QCA and then the Responsible Ministers, costs incurred directly in servicing irrigation customers such as meter reading, and water account management will be recovered as other service charges within the water supply contracts between Seqwater and customers.

Seqwater will continue to work with the MBRI and undertake further analysis to quantify the proposed direct costs for these services to develop other service charges.