16 September 2024

Rural irrigation price review 2025–2029
Queensland Competition Authority
GPO Box 2257
Brisbane QLD 4001

Submission from Queensland Cane Agriculture and Renewables Ltd (QCAR)

The Sugarcane industry collective of the Queensland Cane Agriculture and Renewables Limited (QCAR), Australian Cane Farmers Association Limited (ACFA), and AgForce Cane Board Limited (ACL) (representative to AgForce Queensland Farmers Limited (AgForce) - (together, the Collective) welcome the opportunity to provide this collaborative submission to the Rural Irrigation Price Review process for the 2025-29 pricing period.

Who we are

Our collective member organisations represent approximately 20% of the sugarcane farmers and 15% of the total sugarcane production in Australia.

QCAR (formerly Pioneer Cane Growers Organisation Ltd) has previously made a joint submission as a member of Burdekin District Cane Growers Ltd.

AgForce Queensland Farmers Limited (AgForce) is also a peak organisation representing Queensland's cattle, grain and sheep, wool & goat producers. The cane, beef, broadacre cropping and sheep, wool & goat industries in Queensland generated around $10.4 billion in on-farm value of production in 2021-22. AgForce's purpose is to advance sustainable agribusiness and strives to ensure the long-term growth, viability, competitiveness and profitability of these industries. Over 5,500 farmers, individuals and businesses provide support to AgForce through membership. Our members own and manage around 55 million hectares, or a third of the state's land area.

The sugarcane industry's contribution to the Australian economy is well documented and communicated by Sugar Research Australia limited (SRA).[1]

Australian sugarcane production is expected to grow at 2.3% and opportunity growth estimated at $3.6 billion over the next 5 years.[2] Our Queensland producers provide high-

[1] Annual-Report-2022-23_Digital-F.pdf (sugarresearch.com.au)
[2] https://www.ibisworld.com/au/industry/sugar-manufacturing/109/#IndustryStatisticsAndTrends

quality food and fibre to Australian and overseas communities, as well as deliver stewardship of the state's natural environment.

Key recommendations

Our February 2024 submission to the QCA described the material economic benefits that would arise from the re-instatement of the 50 per cent community service order (CSO) discount for Giru Benefited Groundwater Area (GBGA) irrigators, which had applied for the thirty-two years prior to 1 July 2020.

The QCA's draft decision did not dispute the nature of these economic benefits.

Rather, it identified that the CSO price discount could not be re-instated because of constraints on its administrative power and the absence of information from Sunwater, ie, in the QCA's view:

1. the referral from the Minister prohibits it from establishing a new tariff group for GBGA irrigators;[3]
2. the *Water Plan (Burdekin Basin) 2007* prevents it from accounting for the significant level of unsupplemented (natural ground) water used by GBGA irrigators, with the result that unsupplemented (natural ground) water is inappropriately assumed to be supplied by Sunwater; [4] and
3. Sunwater has not provided sufficient proper information on the relative cost of providing irrigation services to GBGA irrigators, in comparison to Burdekin channel schemes.[5]

We recommend that the QCA;

1) Properly accounts for the matters specified at section 26 of the *Queensland Competition Authority Act 1997* (Qld) (the QCA Act), as described in our February 2024 submission.
2) Re-instates the 50 per cent CSO discount for Giru Benefited Groundwater Area (GBGA) customers;
3) Includes a price review trigger for GBGA irrigators if the Giru weir and Val Bird weir are re-classified as bulk assets before 30 June 2029;
4) Applies a further 10-15 per cent discount in price across all irrigation schemes in Queensland; and
5) Applies price incentives in designated areas to encourage the use of groundwater where its use will have a known positive impact on the rising groundwater problem.

We refer to our February 2024 submission to the QCA, which sets out in detail the basis for and the benefits of these recommendations.

We note also that the QCA appears not to have given any consideration to the third point noted above, which was also raised in our February 2024 submission.

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[3] QCA, *Rural irrigation price review 2025–29: Sunwater Draft report*, June 2024, p 162.
[4] QCA, *Rural irrigation price review 2025–29: Sunwater Draft report*, June 2024, pp 160-161.
[5] See: QCA, *Rural irrigation price review 2025–29: Sunwater Draft report*, June 2024, pp 162-164; and Sunwater proposal, December 2023, p 130.

Economic benefit of re-instating CSO price discount

The CSO discount would align the price for GBGA irrigators with the lower cost of serving them, the lower level of service they receive and the higher cost of accessing the water, in comparison to Burdekin Channel customers. The QCA similarly acknowledged in its draft decision that:[6]

> *…there is likely to be some difference in cost and service levels for customers in the Giru Groundwater tariff group compared to other distribution system customers given the different nature of the operational system.*

It is a fundamental tenet of economic regulation that price reflects the efficient cost of providing a good or service.[7] We described in our February 2024 submission that, for GBGA irrigators, the re-instatement of the CSO price discount will:

- promote the efficient allocation of resources;[8]
- promote competition by reflecting the price that would be charged in a competitive market;[9]
- provide a price incentive for GBGA customers to use more groundwater, which has a positive effect on the environment;[10] and
- support the long-term commercial viability of GBGA customers.[11]

On the latter point, GBGA farmers have among the lowest crop yield and sugar content (CCS) and therefore have among the lowest sugar yield as well as materially higher private investment and electricity and maintenance costs to access the supplemented water, eg, the QCA recognised that GBGA irrigators:[12]

> *…have additional costs compared to many channel customers because of the need to pump water from the Haughton River (including weirs) or groundwater bores.*

Further, the resulting much lower capacity to pay for GBGA farmers makes them much more responsive to changes in price, since they may be forced to shut down operations. It is well-accepted in economic theory that it is efficient to allocate less costs to customers that are

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[6] QCA, *Rural irrigation price review 2025–29: Sunwater Draft report*, June 2024, p 114. The QCA's view that these differences are not material has no evidentiary basis in the absence of cost information from Sunwater. It also ignores the material level of unrecognised unsupplemented (natural ground) water used by GBGA irrigators.
[7] As recognised in section 26(d)(i)-(ii) of the QCA Act.
[8] Consistent with sections 26(d)(i)-(ii) of the QCA Act.
[9] Consistent with section 26(b) of the QCA Act.
[10] Consistent with section 26(a),(g) and (j) of the QCA Act.
[11] Consistent with sections 26(i) and 26(m) of the QCA Act.
[12] QCA, *Rural irrigation price review 2025–29: Sunwater Draft report*, June 2024, p 165,

more responsive to changes in price, ie, GBGA irrigators. The QCA highlighted this principle in its statement of principles, explaining that:[13]

> *The Ramsey pricing or inverse elasticity rule charges each consumer based on its elasticity of demand (which reflects sensitivity of demand to price changes). The consumers with the highest elasticity [most price responsive] pay the lowest price.*

We therefore strongly encourage the QCA to re-instate the CSO discount and adopt the other recommendations put to it in this submission.

Sunwater refusal to provide information

Despite evidence that the cost of providing services to GBGA irrigators is materially lower than channel irrigators, Sunwater has persistently refused to provide the information required to undertake a full cost assessment or undertake that analysis itself.

Rather Sunwater says that:[14]

> *Sunwater's preference is for the continuation of current cost allocation and pricing practices in this scheme, and notes that any holistic review of cost allocation would require considerable time (at least two years) given the competing customer positions, and may lead to unexpected outcomes including the creation of more than two effective tariff groups within the distribution service*

Neither the basis nor relevance of Sunwater's 'preference' not to undertake this additional work is clear.

Further, the materially lower cost of serving GBGA irrigators has been put to Sunwater since 2020 yet now, at this late stage in the regulatory process, Sunwater asserts that it will take two years to undertake a cost allocation.

Cost allocations are routinely undertaken by regulated infrastructure business (including Sunwater in the calculation of its prices[15]) and involve simply:

- identifying relevant capital and operating costs; and
- applying an allocation metric (typically based on relative use) to allocate those costs between services or customers.

In light of Sunwater's persistent refusal to facilitate proper consideration of this issue, we call for the QCA to request the requisite information from Sunwater and undertake its own analysis.

Further, Sunwater and the QCA's unfounded speculation that a cost allocation could potentially show higher cost for GBGA irrigators is unlikely to play out when a usage-based allocation metric appropriately accounts for the degree of unsupplemented (natural ground water) used by GBGA irrigators.

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[13] QCA, *Statement of Regulatory Pricing Principles*, August 2013, p 11.
[14] Sunwater proposal, December 2023, p 130.
[15] Sunwater Proposal, *Irrigation pricing proposal 1 July 2025 to 30 June 2029*, November 2023, pp 34 and 133.

New tariff group

The Minister's referral states that when the QCA is considering new tariff groups, it is to avoid shifting costs from one group of customers to another within a water supply scheme:[16]

- in the absence of the business having a significant commercial interest in the change; and
- in the absence of agreement from customers.

We respectfully disagree with the QCA's interpretation that it is prohibited from establishing a new tariff class if one or both of these considerations applies.[17]

Rather, the use of the term 'avoid' invokes a need for the QCA to consider the relative merits of:

- the significant commercial interests of GBGA irrigators in reinstating the former price discount, ie, their low capacity to pay due to lower sugar yield (refer to **Appendix 1**) as well as the materially higher private investment and electricity costs to access supplemented water (refer to **Appendices 2 to 4**, along with the information in the sections that follow); and
- the inevitable opposing view from other customers with a much higher cost to serve and higher capacity to pay.

We call for the QCA to undertake a thorough comparative analysis of these considerations.

Differentiation of costs between a GBGA Irrigator and Channel irrigator

During the 2020-24 QCA Irrigation Pricing Review, while forming a conclusion that the GBGA did not fit within the current Water Act Framework and Associated Operational Conditions, it stated that the GBGA could justify a differentiated cost versus being merged into a distribution system so long as the GBGA irrigators could differentiate and articulate the cost differences to channel customers.

"Since GBGA remains a separate tariff group, there is potential for GBGA customers' prices to be differentiated from other distribution system customers to reflect cost differences. In the case of watercourses supplemented by channel systems, costs could differ if materially less than 100 per cent of water supplied is sourced from the channel system."[18]

Having established above that "materially less than 100 per cent of water supplied is sourced from the channel system", it is now appropriate to provide details of the differential costs that exist which are not incurred by Channel irrigators.

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[16] Minister for Trade and Investment, *Referral Notice*, 10 March 2023, p 2.
[17] QCA, *Rural irrigation price review 2025–29: Sunwater Draft report*, June 2024, p 162.

[18] QCA, *Final report Rural irrigation price review 2020–24 Part B: Sunwater*, January 2020, p 118.

Differential Costs incurred by GBGA irrigators

Details of costs uniquely associated with GBGA irrigators, and therefore not Channel irrigators, are set out below and in **Appendix 4**.

While these costs will differ from farmer to farmer and from farm to farm, it is sufficient to understand that significant costs are incurred by a GBGA irrigator which is not incurred by a channel irrigator.

In summary, the areas where such costs are incurred, as previously advised to the QCA in previous submissions include:

- costs of Bore ($25,000-$40,000)
    - Bore hole creation cost
    - Bore Pump maintenance
    - Pump anchors where the pump is in the river/creek
- Bore/River pumps
    - cost and installation (we know of one example whereby a river pump was acquired for $25,000 to service a 30ha farm or about 250ml in annual pumping)
    - Suction line to river and a screen fitting also
    - Operation of pumps incurs significant electricity costs ($35/ML) and on the above example would incur around $8,750 in electricity costs over and above a channel irrigator
- Pipes
    - Needed to run from source (river) to water distribution areas on farm as compared to channel customers where it is usually gravity fed to the distribution out close by at the top of the farm
    - Pipes often need to run from bottom of farm to top of farm for GBA customers due to bore locations
- Maintenance on all of the above (minimum of $10/ML)
- Requirements for water for a 10,000T sugarcane farm are an average of 750ML per farm

Although these costs incurred by GBGA irrigators are not part of Sunwater's cost of delivering water to GBGA customers, they are relevant to the relative cost of supplying GBGA irrigators because they supplant the need for costs that, for Burdekin Channel customers, are incurred by Sunwater (**See Appendix 4, section one**).

These additional private costs, combined with Sunwater's relatively lower cost to serve GBGA irrigators, exacerbate the competitive disadvantage faced by GBGA irrigators without the former CSO discount.

Water Distribution Scheme Efficiencies

During the 2020-24 irrigation pricing investigation process, a consultant engaged by the QCA failed to draw sound conclusions about the efficiencies of water diversions and usage relating to the GBGA customers. The errors in these assumptions led to both erroneous conclusions about water usage in the GBGA but also, in our opinion, incorrect assumptions about the contribution that the natural yield was making toward satisfying the irrigation needs of the GBGA irrigators and, as a consequence, reducing the reliance on the distribution scheme.

It is wrong to focus on averages over long periods when you are trying to assess the legitimacy or otherwise of a source of water which is making a making a material contribution toward the overall irrigation needs of an Irrigator. In other words, if the source is proven to exist for a single year, then it must exist. If it is proven to exist, then its capacity to make, and frequency that it has made, such a contribution should then be the focus. Historically, the GBGA irrigators used to survive on underground water and river water, without the need for supplementation for at least 6 months of the year and then supplementation was required. In its simplest form this is how a neat 50% contribution through natural yield and discount would have been determined.

The QCA has continued to conclude based on false assumptions that the "Extent of Supplementation of Haughton Zone A" was between 95%-100% (more specifically between 95%-100% as part of the 2020 review and 97% during the current review and erroneously concluding that HZA including GBGA "remains materially supplemented by water delivered by channel infrastructure" (refer slide 38 of Power point Presentation to Giru Workshop).

To assist the QCA in making a correct determination during this review, we have prepared some new calculations using a different approach, but using the same data that has always been available to the QCA. Appendix 2 sets out details of this more accurate, but still conservative assessment of efficiencies in the GBGA water allocations utilising the accepted published diversion and usage data of the Channel.

This assessment remains conservative because Sunwater, in its Response to an Information request (Refer Appendix 4), acknowledges that "the GBA deliveries are subject to channel distribution losses, but as water is delivered via a natural river system (the Haughton River), deliveries are also subject to much higher and highly variable distribution losses. The distribution efficiency of this system is highly variable, depending on factors including wetted area of the river bed, current groundwater levels and presence of natural flows. As a rule of thumb, natural watercourses can operate at efficiencies as low as 60% and this is further exasperated by low participation by GBA customers in Water Ordering").

The Channel system has therefore been adopted as an acceptable "proxy" measure of efficiency in the Haughton Zone A GBA distribution system. Tables of data are presented which reflect the water diversions and usages from the channel system. These numbers are used to calculate an efficiency % which is then applied to the GBA diversion data to generate adjusted GBGA diversion numbers. A new fresh efficiency % is then calculated to

reflect a true indication as to the extent of the contribution of the GBGA natural yield to GBGA irrigators' needs.

The analysis highlights that:

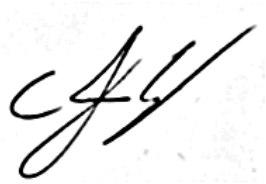
- there is a significant contribution of water from a source other than the supplemented water, across the year which makes a material contribution to GBGA irrigators in meeting their irrigation needs
- during a 3-year period when the Channel scheme was achieving at close to its lowest efficiency, it is a well-known and published fact that Sunwater was having troubles with the measurement of water being diverted at its balancing storage facility, mainly caused by a faulty water release gate as a result of an intrusion of weeds around the release gate. This meant that the system used to measure water being released was in fact faulty, leading to the situation where the system believed it was issuing more water than it actually was and resulting in a bizarre situation whereby the records indicated that more water was being released than being used. This data should be removed from the analysis
- The analysis shows that the use of water exceeds the diversion of water by between 120% and 270% in any one year.
- It is not appropriate to use averages to assess the existence of a natural yield water supply, especially if the hydrogeological survey previously obtained and provided to the QCA confirms what was established by engineers in the 1980s – that the GBGA aquifer exists and has existed for over 35 years.

The end result is an unescapable conclusion that **not only does the GBGA aquifer exist, but it makes a material contribution to the irrigation needs of GBGA irrigators and is likely to have done so for at least 35 years and without the need for supplementation during wet months.** To shift the focus onto the dry months takes away from the fact that during the dry months is when the aquifer plays less of a role and the supplemented water is required and drawn on. Across the year this balances out and it is obvious the original engineers' assessments in the 1980s were right that the aquifer met, on average, around half of the water needs of the GBGA irrigators.

"Water Solutions found that despite missing observations in …. release data. If the missing observations were replaced with the volumes released the day before, HZA efficiency was 99 per cent. Water Solutions noted that there are a number of years where HBS releases were higher than HZA extraction, indicating that there was little contribution from non-HBS release sources in dry periods. If the missing data was replaced with zero observations, HZA efficiency was 105 per cent (average supplementation from the channel system of about 95 per cent)".[19]

[19] QCA, *Final report Rural irrigation price review 2020–24 Part B: Sunwater*, January 2020, p 119.

We again call on the QCA to undertake a thorough comparative analysis of these additional considerations.



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Christian Lago	Don Murday	Russell Hall
QCAR	ACFA	ACL
Chairman	Chairman	President

Appendix 1

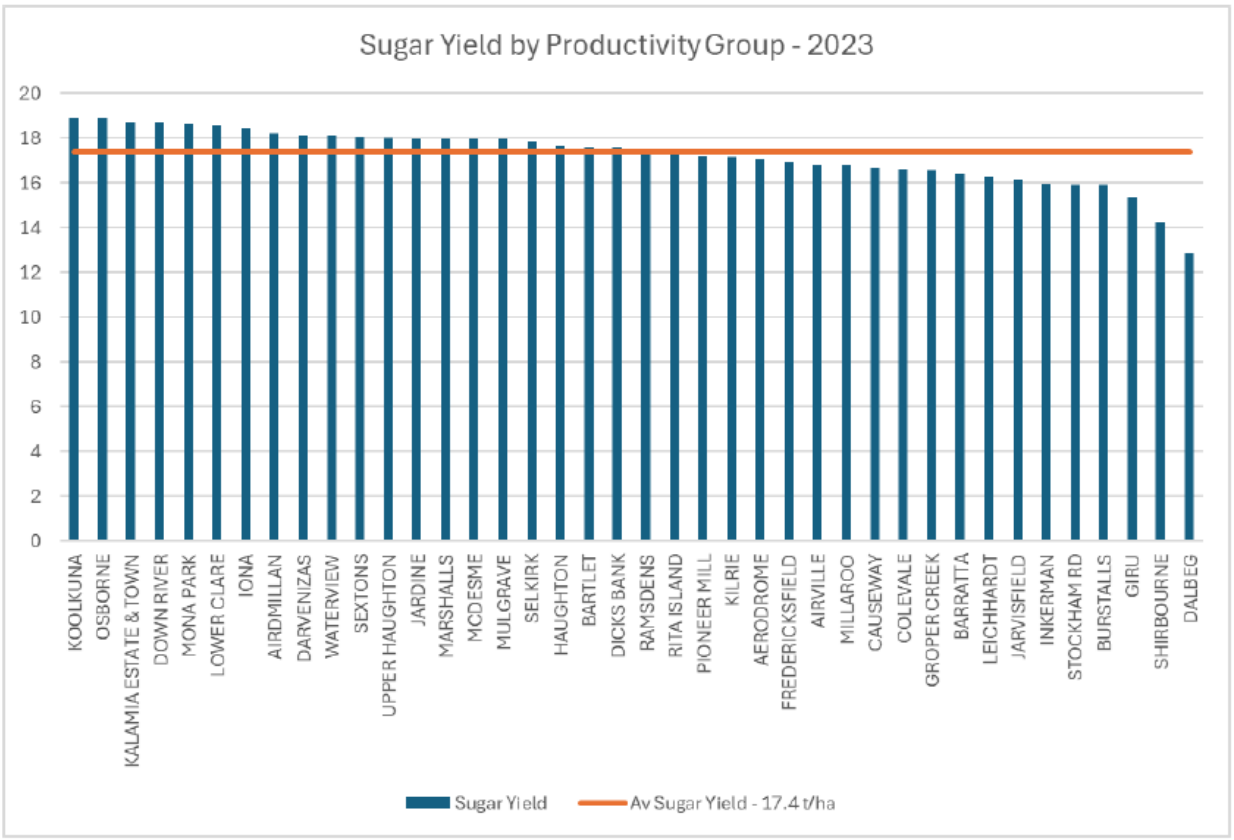
Evidence of lower sugar yield (crop yield and sugar content (CCS)) in the Giru Area

As evidenced in the charts below, the Giru Productivity Group has consistently appeared in the bottom 10% of the 40 sugar producing regions in the Burdekin area. Average Sugar yield is a combination of both average Sugarcane yield (Ts of sugarcane production per hectare) and average sugar content (or CCS).

The statistics below across 9 years have been extracted from the Burdekin Productivity Services' 2023/24 Annual Report and the Burdekin River Irrigators Association (BRIA) Published statistics for the 2015-2022 years and no doubt the same for the last 40 years.

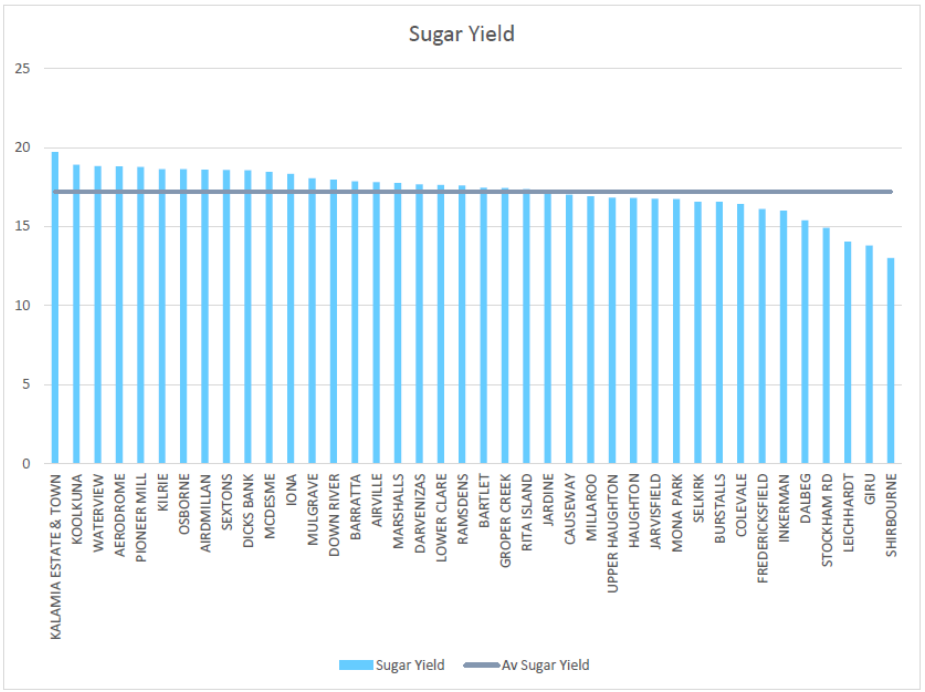
Burdekin Region Productivity Statistics - 2023 Year

Burdekin Productivity Services Ltd – Annual Report 2023/2024



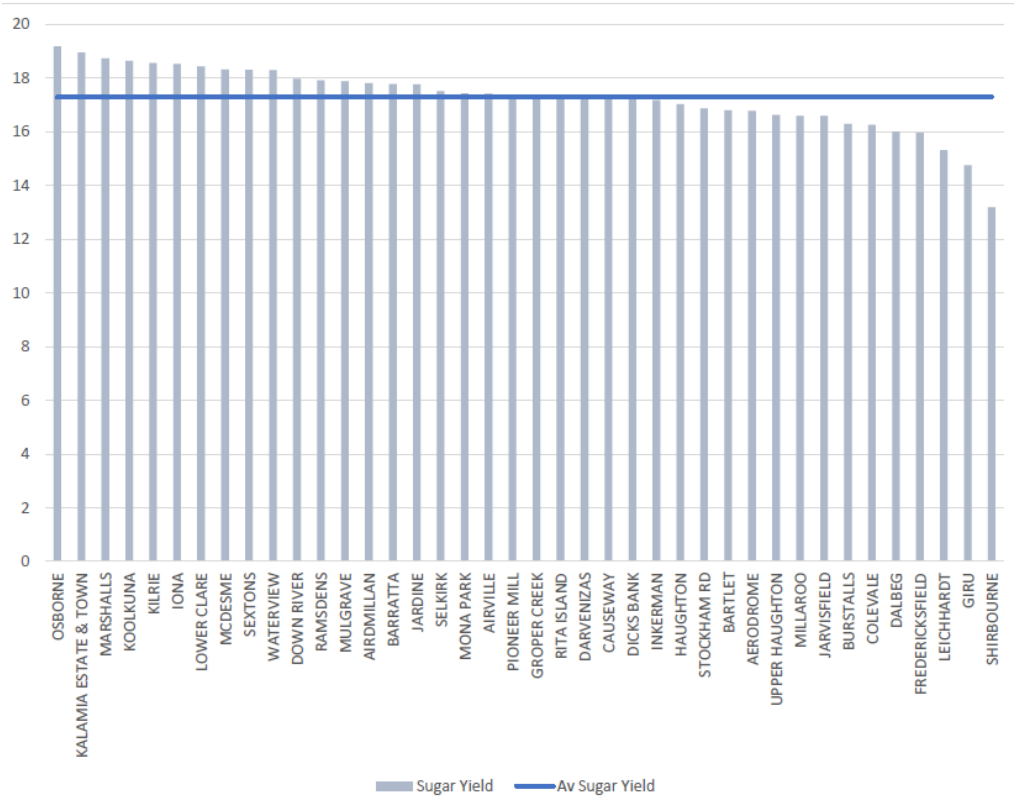
Burdekin Region Productivity Statistics - 2022 Year

Av Sugar Yield
17.2

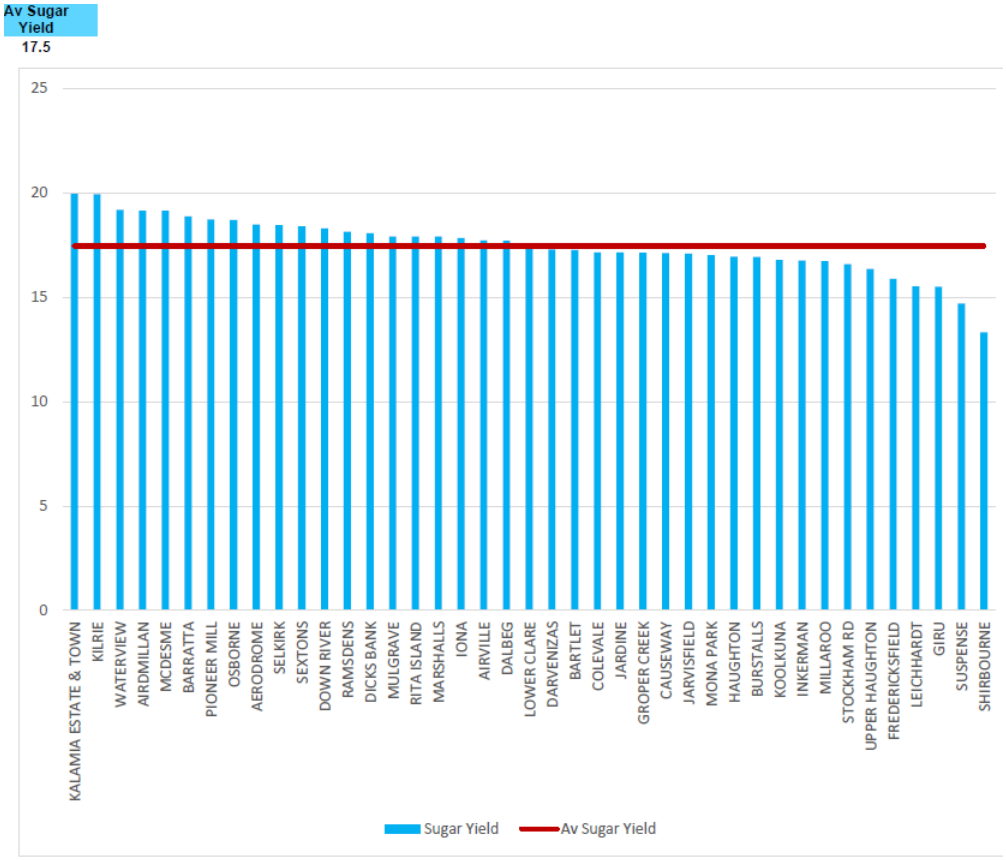


Burdekin Region Productivity Statistics - 2021 Year

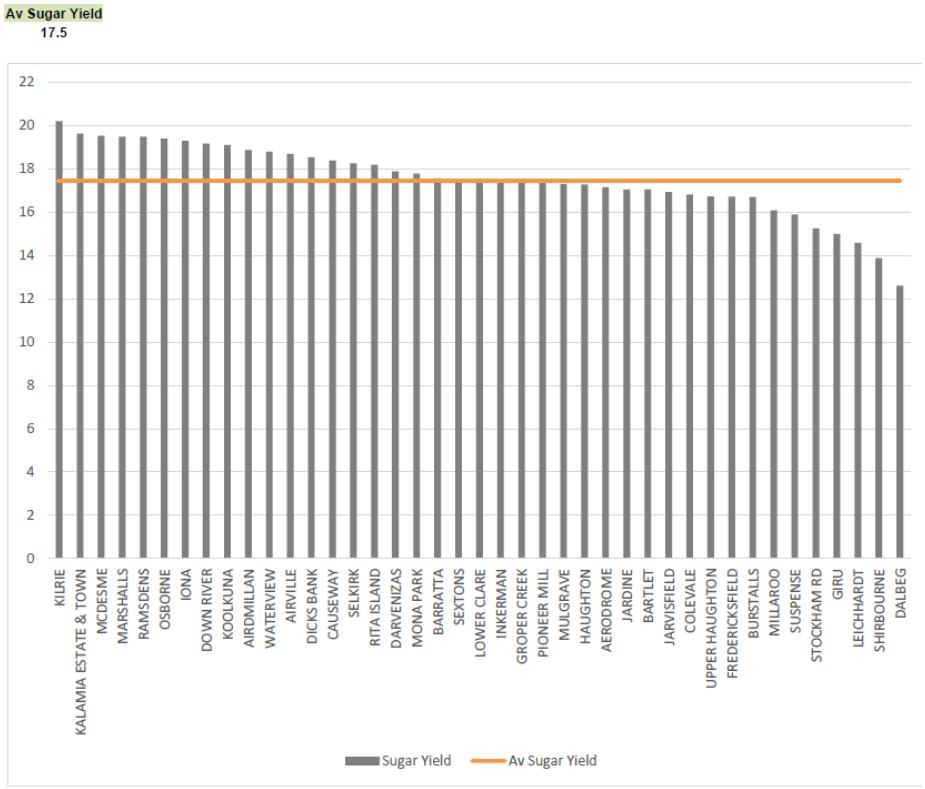
Av Sugar Yield
17.3



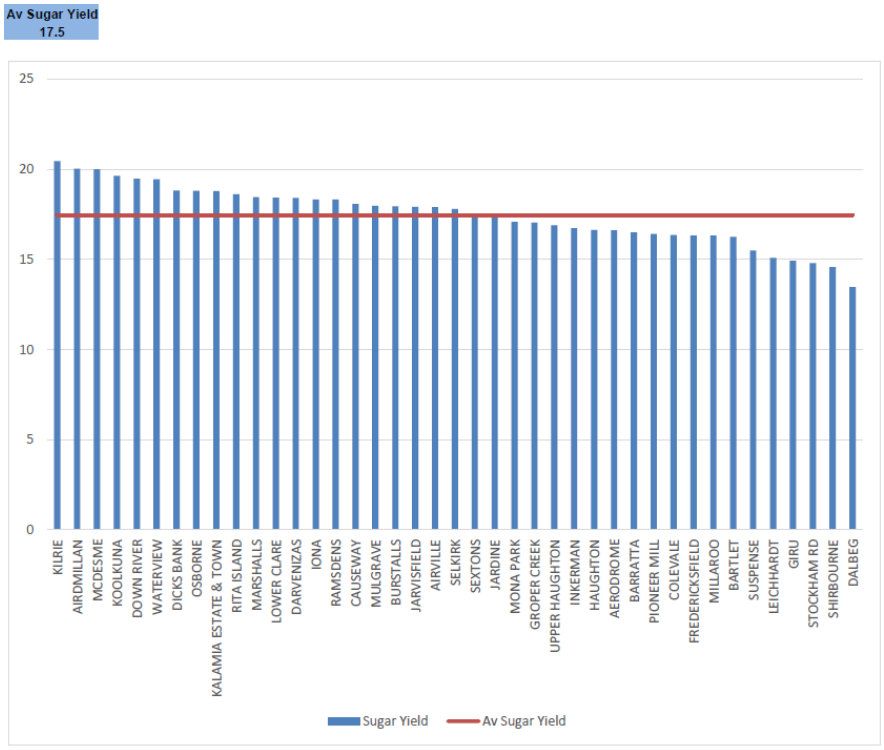
Burdekin Region Productivity Statistics - 2020 Year



Burdekin Region Productivity Statistics - 2019 Year

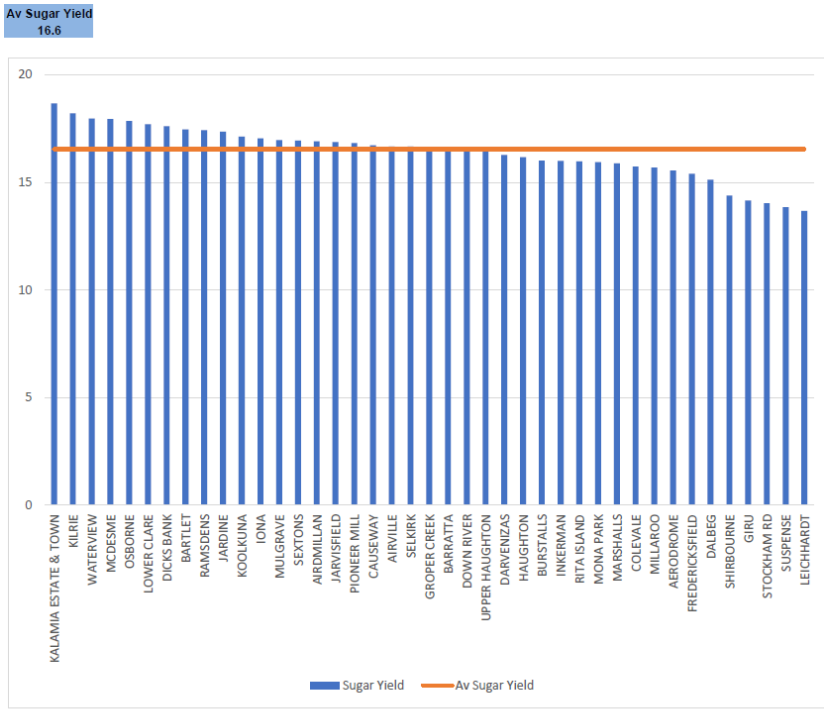


Burdekin Region Productivity Statistics - 2018 Year



Burdekin Region Productivity Statistics - BRIA

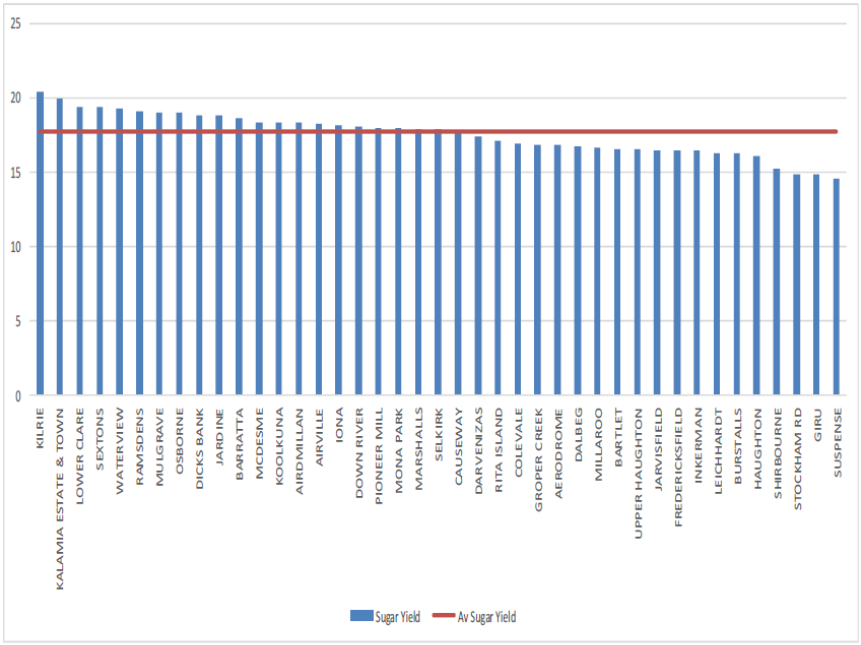
Burdekin Region Productivity Statistics - 2017 Year



Burdekin Region Productivity Statistics - BRIA

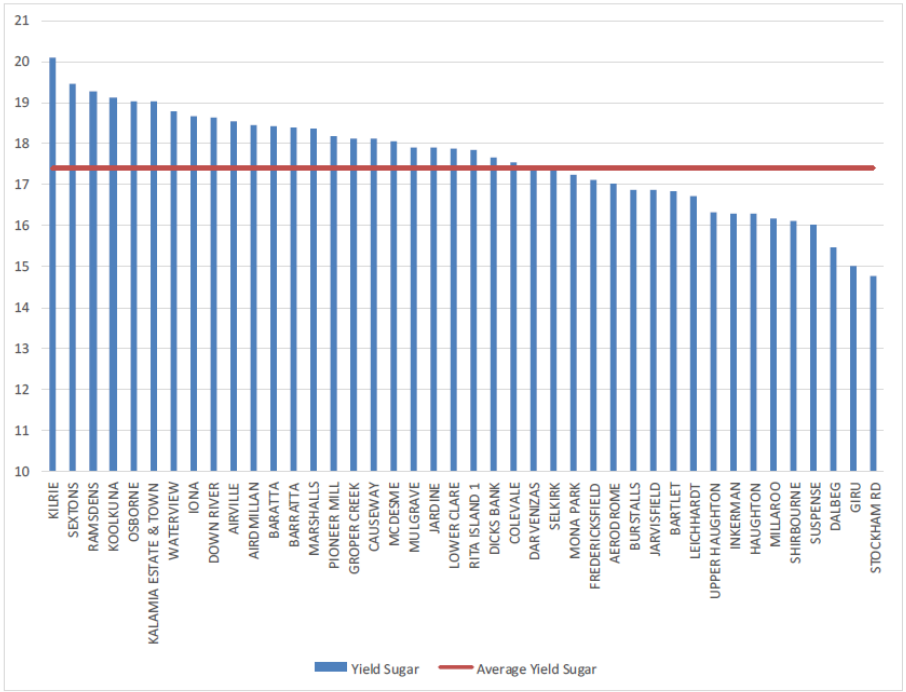
Burdekin Region Productivity Statistics - 2016 Year

Av Sugar Yield
17.7



Burdekin Region Productivity Statistics - 2015 Year

Average Yield Sugar
17.41



Appendix 2

Asessment of efficiencies in the GBGA water allocations

Water Distribution Scheme Efficiencies - Channel V Haughton Zone A (including GBGA)

25/10/2023 email
Sunwater
Data

DIVERSIONS

Location	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Clare	34,503	27,023	24,067	33,445	9,279	26,499	27,938	34,900	30,940	29,412	27,647	32,106	29,281	30,161	24,421	24,154	22,897
Dalbeg	18,121	14,723	13,245	17,773	7,677	10,002	17,584	19,213	16,503	13,236	7,389	8,812	8,860	11,231	9,722	5,625	5,714
Millaroo	32,617	27,477	28,334	30,842	11,592	25,042	32,443	36,989	34,996	23,731	24,060	28,616	21,486	27,805	22,679	19,891	17,481
New Bria	300,975	259,647	235,827	309,810	90,760	221,144	246,305	368,452	398,624	335,754	270,906	314,039	268,042	317,503	279,195	274,271	217,094
All	**386,216**	**328,870**	**301,473**	**391,870**	**119,308**	**282,687**	**324,270**	**459,554**	**481,063**	**402,133**	**330,002**	**383,573**	**327,669**	**386,700**	**336,017**	**323,941**	**263,185**

USAGE

Location	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Clare	25,326	18,973	17,209	26,287	5,941	17,527	20,600	25,252	27,615	23,484	22,687	24,362	24,587	26,904	22,716	23,968	21,969
Dalbeg	10,978	8,391	6,924	9,428	3,518	4,674	8,957	12,069	10,527	7,849	3,717	5,570	6,099	8,017	7,624	4,262	5,012
Millaroo	19,119	15,217	15,594	18,233	5,011	14,639	18,205	24,486	22,441	17,356	14,783	19,886	18,016	23,070	21,053	17,597	13,657
New Bria	219,915	174,109	142,304	204,109	51,151	140,973	151,235	208,230	280,965	243,425	219,097	271,315	227,715	258,702	215,718	231,754	181,630
All	**275,338**	**216,690**	**182,031**	**258,057**	**65,621**	**177,813**	**198,997**	**270,037**	**341,548**	**292,114**	**260,284**	**321,133**	**276,416**	**316,692**	**267,111**	**277,582**	**222,268**

Details of Water diversions and usages for the Channel irrigators 2005/06 – 2022/23

Year	Haughton Zone A Diversion (ML)	Total Water usage (ML)	Usage/Diversion		Adj Diversion	Usage/Diversion adjusted using channel inefficiency %	
2006/07	31,556	37,984	120%	71%	22,497	169%	
2007/08	22,018	30,742	140%	66%	14,507	212%	
2008/09	19,101	27,061	142%	60%	11,533	235%	
2009/10	38,465	35,571	92%	66%	25,330	140%	
2010/11	5,872	6,677	114%	55%	3,230	207%	
2011/12	29,603	20,387	69%	63%	18,621	109%	Metre Release Gate issues
2012/13	26,873	20,610	77%	61%	16,491	125%	Metre Release Gate issues
2013/14	44,671	29,668	66%	59%	26,249	113%	Metre Release Gate issues
2014/15	47,405	46,422	98%	85%	33,657	138%	
2015/16	47,019	47,031	100%	73%	34,155	138%	
2016/17	29,357	33,502	114%	79%	23,155	145%	
2017/18	35,291	43,814	124%	84%	29,546	148%	
2018/19	19,320	31,553	163%	84%	16,298	194%	
2019/20	31,644	37,023	117%	82%	25,915	143%	
2020/21	24,007	28,032	117%	79%	19,084	147%	
2021/22	28,403	31,543	111%	86%	24,338	130%	
2022/23	9,352	21,342	228%	84%	7,898	270%	
	Diversion	**Usage**	**use/div**				
17Years	**489,957**	**528,962**	**108%**		352,505	150%	Weighted Average

Appendix 3

Comparison of Sunwater revenue recovery assuming GBA had paid same price as the Channel customers for 2006-2023

If we look at releases and metered usage for Haughton Zone A in a direct comparison with the rest of the scheme.

The channel system has 278,957ML of allocation and the Haughton Zone A 40,249ML

Sunwater measures releases from each of the nodes to supply each section location ,Clare, Millaroo, Dalbeg, New BRIA.

We have taken those releases and usage for the entire channel system and compared it with the releases and usage for the Haughton Zone A in terms of revenue for Sunwater per ML released to demonstrate the difference between the two.

Sunwater fees apply to the total allocation held for the Fixed Charge and usage applies to the Variable per Ml used at the meter.

For example in 2018-19:

Channel System

Sunwater released 327669ml to supply 276416ml in the channel system. Sunwater revenue is 278,957Ml x Part a +c = $11,590,663 plus the usage charge 276 416ml x Part B+D =$8 129 395 giving a total of $19,720,058

Divide this by ML released and we have the **Revenue per ML released of $60.18**

Haughton Zone A (If price was the same as the channel system as the QCA has recommended in 2019 review):

Sunwater released 19,320ml to supply 31,553 ml in the Haughton Zone A revenue is 40,249Ml x Part a +c = $1,672,346 plus the usage charge of 31,553ml x Part B+D =$927,974 giving a total of $2,600,320

Divide this by ML released and we have the **Revenue per ML released of $134.59**

In this example Sunwater has received more than double the return per ML released from the Haughton Zone A for providing a lower standard of service and for a lower cost of supply.

If we take the last 17 years and apply full channel fees to the Haughton Zone A Sunwater average return per released ML would be $71.73 compared to the $44.08 for the channel system average over the same period.

QCA proposed price is clearly going to have the effect of Haughton Zone A irrigators suffering price gouging and now providing a subsidy to the channel scheme.

Table 1 Sunwater revenue derived per ML from Channel diversions 2006-2023

									Channel Allocation 278957			
Year	Channel Water Price/ML	Fixed Part A	Fixed Part C	Variable Part B	Variable Part D	Channel All Diversion (ML)	Total Water Usage (ML)		Part A + Part C x Allocation ALLOCATION FIXED	Part B + Part D x Usage USAGE VARIABLE	Sunwater TOTAL REVENUE	Sunwater REVENUE Per ML Diverted
2006-07	$41.14	$25.08		$16.06		386,216	275,338		$6,996,242	$4,421,928	$11,418,170	$29.56
2007-08	$42.33	$25.80		$16.53		328,870	216,690		$7,197,091	$3,581,886	$10,778,976	$32.78
2008-09	$44.37	$27.04		$17.33		301,473	182,031		$7,542,997	$3,154,597	$10,697,595	$35.48
2009-10	$45.75	$27.88		$17.87		391,870	258,057		$7,777,321	$4,611,479	$12,388,800	$31.61
2010-11	$47.13	$28.72		$18.41		119,308	65,621		$8,011,645	$1,208,083	$9,219,728	$77.28
2011-12	$50.83	$31.76		$19.07		282,687	177,813		$8,859,674	$3,390,894	$12,250,568	$43.34
2012-13	$50.01	$11.35	$13.26	$0.49	$24.91	324,270	198,997		$6,865,132	$5,054,524	$11,919,656	$36.76
2013-14	$53.30	$11.63	$15.64	$0.50	$25.53	459,554	270,037		$7,607,157	$7,029,063	$14,636,221	$31.85
2014-15	$56.73	$11.92	$18.13	$0.51	$26.17	481,063	341,548		$8,382,658	$9,112,501	$17,495,158	$36.37
2015-16	$60.30	$12.22	$20.74	$0.52	$26.82	402,133	292,114		$9,194,423	$7,986,397	$17,180,819	$42.72
2016-17	$64.02	$12.53	$23.46	$0.54	$27.49	330,002	260,284		$10,039,662	$7,295,761	$17,335,423	$52.53
2017-18	$67.11	$12.10	$26.31	$0.52	$28.18	383,573	321,133		$10,714,738	$9,216,517	$19,931,255	$51.96
2018-19	$70.96	$3.40	$38.15	$0.53	$28.88	327,669	276,416		$11,590,663	$8,129,395	$19,720,058	$60.18
2019-20	$72.73	$3.49	$39.10	$0.54	$29.60	386,700	316,692		$11,880,779	$9,545,097	$21,425,876	$55.41
2020-21	$66.20	$3.49	$39.10	$0.33	$23.28	336,017	267,111		$11,880,779	$6,306,491	$18,187,269	$54.13
2021-22	$59.11	$3.26	$35.78	$0.28	$19.79	323,941	277,582		$10,890,481	$5,571,071	$16,461,552	$50.82
2022-23	$61.16	$3.33	$37.31	$0.29	$20.23	263,185	222,268		$11,336,812	$4,560,939	$15,897,752	$60.41
TOTAL						5,828,531	4,219,732		$156,768,255	$100,176,621	$256,944,875	
							Sunwater Income per ML Diverted			Channel		$44.08

Table 2 – Sunwater revenue derived per ML from HZA (including GBA) diversions if Channel price had been charged 2006-2023

SUNWATER RETURNS PER ML RELEASED for Haughton Zone A at CHANNEL PRICES SINCE 2006									Haughton Zone A Allocation 40249			
Year	CHANNEL Water Price/ML	Fixed Part A	Fixed Part C	Variable Part B	Variable Part D	Haughton Zone A Diversion (ML)	Total Water usage (ML)		Part A + Part C x Allocation ALLOCATION FIXED	Part B + Part D x Usage USAGE VARIABLE	Sunwater TOTAL REVENUE	Sunwater REVENUE Per ML Diverted
2006-07	$41.14	$25.08		$16.06		31556	37,984		$1,009,445	$610,023	$1,619,468	$51.32
2007-08	$42.33	$25.80		$16.53		22018	30,742		$1,038,424	$508,165	$1,546,589	$70.24
2008-09	$44.37	$27.04		$17.33		19101	27,061		$1,088,333	$468,967	$1,557,300	$81.53
2009-10	$45.75	$27.88		$17.87		38465	35,571		$1,122,142	$635,654	$1,757,796	$45.70
2010-11	$47.13	$28.72		$18.41		5872	6,677		$1,155,951	$122,924	$1,278,875	$217.79
2011-12	$50.83	$31.76		$19.07		29603	20,387		$1,278,308	$388,780	$1,667,088	$56.31
2012-13	$50.01	$11.35	$13.26	$0.49	$24.91	26873	20,610		$990,528	$523,494	$1,514,022	$56.34
2013-14	$53.30	$11.63	$15.64	$0.50	$25.53	44671	29,668		$1,097,590	$772,258	$1,869,848	$41.86
2014-15	$56.73	$11.92	$18.13	$0.51	$26.17	47405	46,422		$1,209,482	$1,238,539	$2,448,021	$51.64
2015-16	$60.30	$12.22	$20.74	$0.52	$26.82	47019	47,031		$1,326,607	$1,285,828	$2,612,435	$55.56
2016-17	$64.02	$12.53	$23.46	$0.54	$27.49	29357	33,502		$1,448,562	$939,061	$2,387,623	$81.33
2017-18	$67.11	$12.10	$26.31	$0.52	$28.18	35291	43,814		$1,545,964	$1,257,462	$2,803,426	$79.44
2018-19	$70.96	$3.40	$38.15	$0.53	$28.88	19320	31,553		$1,672,346	$927,974	$2,600,320	$134.59
2019-20	$72.73	$3.49	$39.10	$0.54	$29.60	31644	37,023		$1,714,205	$1,115,873	$2,830,078	$89.43
2020-21	$66.20	$3.49	$39.10	$0.33	$23.28	24007	28,032		$1,714,205	$661,836	$2,376,040	$98.97
2021-22	$59.11	$3.26	$35.78	$0.28	$19.79	28403	31,543		$1,571,321	$633,068	$2,204,389	$77.61
2022-23	$61.16	$3.33	$37.31	$0.29	$20.23	9352	21,342		$1,635,719	$437,938	$2,073,657	$221.73
TOTAL						489957			$22,619,133	$12,527,843	$35,146,976	
							Sunwater Income per ML Diverted			Haughton Zone A		$71.73
							IF CHANNEL PRICES WERE LEVIED SINCE 2006					

Appendix 4

Different Service Standards between GBA and Burdekin Channel

The following information was provided by Sunwater in response to an information request:

There are four main differences in service level to the GBA:

1. cost of delivery
2. distribution losses
3. peak flow entitlement
4. monitoring and maintenance costs.

These are each explained below.

1. Cost of delivery

There are periods in a water year when Sunwater operates the Tom Fenwick pump station at a lower capacity, as it is not providing additional supplemented supply to be diverted into the Haughton river for GBA customers.

In dry periods, Sunwater pumps water into the Haughton Channel system and storage for the provision of water to both channel and GBA customers.

However, when there is a wet weather event there can be extended periods (sometimes months) where there is natural flow in the Haughton River. During these periods, Sunwater may not need to use extra pumping capacity to maintain supply to the GBA customers as the rain and extended natural flows in the river maintains the height of ponded areas of the Haughton, enabling customers to access their entitlements.

Supply to Burdekin Channel customers, however, requires Sunwater to pump water from the Burdekin River into the channels. During the same periods of wet weather, the channel systems may not be required for short periods (typically 5-1- days) while customers farms are wet from the rain. However, once the rain has drained away customers recommence irrigating and require Sunwater to pump water into the channels. A shutdown of pumping for a rain event typically only last between 5-10 days.

2. Distribution losses

Burdekin Channel deliveries experience a relatively constant level of distribution losses across the channel system. The channel system is clay lined and therefore has limited seepage losses. The Burdekin channel system typically operates between 75%-85% efficiency.

GBA deliveries are subject to channel distribution losses, but as water is delivered via a natural river system (the Haughton River), deliveries are also subject to much higher and highly variable distribution losses. The distribution efficiency of this system is highly variable, depending on factors including wetted area of the river bed, current groundwater levels and presence of natural flows. As a rule of thumb, natural watercourses can operate at efficiencies as low as 60% and this is further exasperated by low participation by GBA customers in Water Ordering.

3. Peak flow entitlements

Burdekin Haughton DS original was originally designed (pump stations and channel size) to deliver the following service levels:

- Old areas (Clare, Millaroo and Dalbeg Sections)—61 mm in 15 days.
- New areas (Barratta, Haughton and Elliot)—75 mm watering on 80 percent of the useable soil area in 12 days at an efficiency of 70 percent.

These assumptions were formed based on the:

- anticipated mix of cropping
- extent of fallow land during period of peak demand
- estimated area to be served.

Subsequent changes to land use, area to be served and capacity expansion (i.e. additional pump stations and modification of channel sizes and efficiencies) led to adjustments to peak flow entitlements. At periods of peak demand, Burdekin Channel customers have a peak flow entitlement (PFE). The purpose of PFEs is to apportion a maximum flow rate that customers can extract water from the channel system during peak demand periods, ensuring all customers have equitable access to water. Sunwater monitors the cumulative customer demands daily and implements PFE restrictions if the cumulative demand approaches levels that pose a risk to meeting customer orders. This is a critical operational control to ensure Sunwater can meet its obligations for supply of High and Medium priority water to our customers as per their contracts.

Peak Flow Entitlements are determined by the following formula/assumptions:

Section Application Rate Area		
Barratta	100 mm over 12 days	90% suitable area
Mona Park	0.027 m3/s (27 L/s)	Not based on area
Haughton	75 mm over 12 days	80% suitable area
Elliot	75 mm over 12 days	80% suitable area
Clare	Proportion of Pump Station capacity	100% gross area
Millaroo	Proportion of Pump Station capacity	100% gross area
Dalbeg	Proportion of Pump Station capacity	100% gross area

Pump and Channel capacities have a direct link to the amount of PFE available.

GBA customers do not have PFEs as the sub scheme was designed to supplement groundwater during periods of no natural flow in the Haughton River. Some customers have transitioned to accessing predominately surface water in the sub-scheme which results in more frequent releases from the channel system to maintain operating levels in the Giru and

Val Bird Weirs. During periods of peak demand, in the event of no excess capacity, their access can be reduced to zero.

Closing the GBA diversion during periods of peak demand or reducing flows through the GBA is understood by customers, on the basis that they have a lower price.

Following the release of the QCA's final recommendations in the 2020-24 pricing investigation, Sunwater advised that their customers questioned if Sunwater was going to provide a PFE to GBA customers, now that they will be paying the same price as the Burdekin channel customers.

Sunwater noted that, "with current levels of infrastructure and operational rules, we would be unable to provide PFEs to both tariff groups, without reducing the level of PFE currently provided to Burdekin Channel customers."

4. Monitoring and maintenance costs of GBA

The two tariff groups require significantly different levels of management and maintenance, due to the higher level of mechanical intervention and close proximity of customer offtakes in the Burdekin Channel.

To maintain optimum capacity in the Burdekin Channel requires more surveillance to ensure:

- regulating gates are working
- flow is being maintained
- customers are taking/not-taking in accordance with water orders.

The higher surveillance is required as the consequences of having problems in the channel system are more immediate and have a greater impact (on both costs and service delivery) than in the GBA system.

Acknowledging that during those times that water is being provided to the GBA through the channel system (when natural flows in the Haughton River are inadequate), the GBA also benefits from the additional maintenance and surveillance required on the channel system.