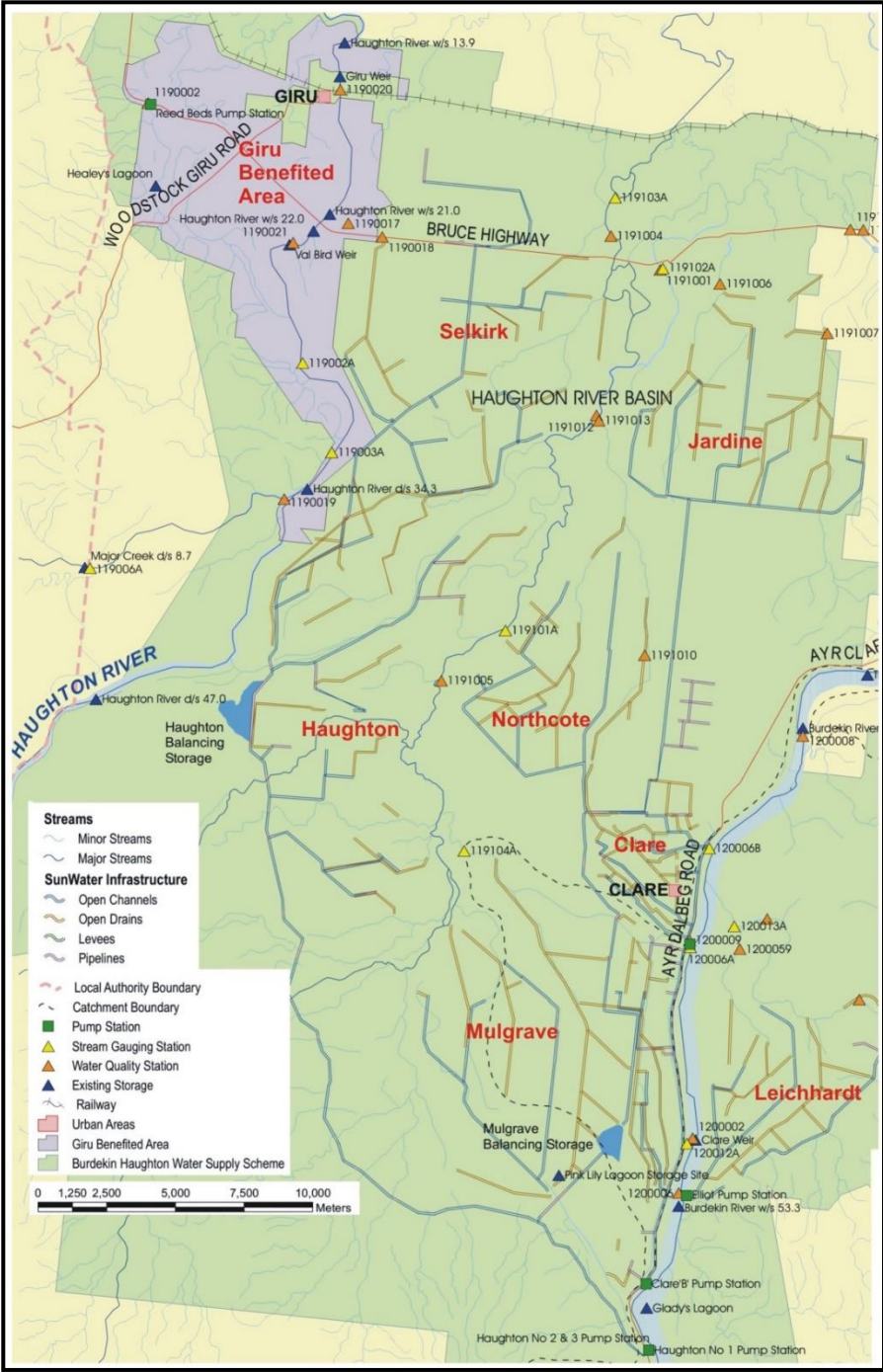


Giru Benefited Area Haughton Zone A Review



April, 2017

Prepared by Geoffrey Kavanagh

TABLE OF CONTENTS

1. Introduction.....	3
2. Scope	3
3. Giru Benefited Area	4
3.1 History	4
3.2 Operations and Uses of Water.....	5
3.2.1 Irrigation	5
4. Water Usage.....	7
5. Allocation by Type, USAGE, and area	9
6. Water Charges 2012/19.....	10
6.1 Prices 2016/17.....	10
7. Pricing Options	12
7.1 Option 1.....	12
7.2 Option 2.....	13
7.3 Option 3.....	13
8. Water Sharing Rules.....	14
9. Recommendations	14
9.1 Natural Yield	14
9.2 Haughton Zone A	14
9.3 Bulk or Distribution Assets	15
9.4 Water Pricing	15
9.5 Timing of the changes to water pricing.....	15
9.6 Water Sharing Agreement – Haughton Zone A.....	15
10. References	16

LIST OF TABLES

Table 1:	Estimation of Anticipated and Achieved Water Balance	7
Table 2:	Diversion and Usage Figures for Haughton Zone A	7
Table 3:	ROP Maximum allowable water use volumes for the Burdekin Haughton Water Supply Scheme	8
Table 4:	ROP Permitted distributions in the Burdekin Haughton Water Supply Scheme	8
Table 5:	The following tables provide details of the system allocation and seasonal use as at 2008 (Source SunWater 2008 Scheme Modernisation Report)	9
Table 6:	Water Access Entitlements within the distribution scheme	10
Table 7:	QCA Recommended Prices 2016/17	11
Table 8:	QCA Cost Reflective Prices 2016/17	11

1. INTRODUCTION

This report has been commissioned to assist in understanding the requirements of meeting the water demands from the Giru Benefited Area (GBA) and all supplemented irrigation users within Haughton Zone A area.

The scope of this report has been put together by SunWater and the Burdekin River Irrigation Area (BRIA) committee.

This report has been designed to provide an overall summary of the findings, and to be suitable for distribution to SunWater executive and LMA Board. This report is also designed to facilitate further discussion on future strategy and cost position for GBA and Haughton Zone A area.

2. SCOPE

1. Review historical volumetric data on releases to the GBA and evaluate compliance with operating rules outlined in the Burdekin Resource Operations Plan 2009 (ROP).
2. Assess the ability of SunWater to recover sufficient revenue to cover operating costs for GBA (e.g. volume diverted, metered usage, revenue received), and establish the amount of natural yield estimated to be used in each water year.
3. Review all available historical data related to the creation of the GBA during the construction of the Haughton Main Channel in the late 1980's. A summary report should be created that considers the key elements and milestones involved in the management of the allocation and the distribution of water to GBA customers. Impacts or changes should also be incorporated into this summary report.
4. The following key criteria (pending available data), both current and at the time of GBA creation, should be summarised:
 - a. Area of land (a) initially under crop and (b) in recent years. It should be noted some longstanding irrigators in GBA have advised that land under crop has increased significantly in the past 30-35 years.
 - b. Yield statistics (a) initial yield (tonne/ha) in GBA and (b) in recent years. Again, it should be noted that local thoughts are that yield has significantly increased as irrigation in the region became more intensive.
 - c. Review local water ordering percentage based on orders and metered usage across GBA over set quarterly periods (i.e. does the lack of water requested impact the volume released into the GBA to cover for those not ordering).

3. GIRU BENEFITED AREA

3.1 History

Giru is in the Haughton River Valley where cane was first harvested in 1906. In 1920 the Haughton River Farmers Association (1914) purchased an under-used Bundaberg mill, 'Invicta', and had it re-constructed at Giru, originally a siding on the Townsville-Ayr sugar line. Sugar production was patchy with occasional drought limiting the supply of cane. For many years cane trams were horse-drawn.

In 1971 the Haughton River / Giru area had grown to 81 farms, 67 farms on aquifers and 14 farms on surface water from adjacent streams and farm storages. The water requirement for the 67 farms was estimated to be 16,000 acre feet per annum, or 19736ML/year. The storage capacity of the aquifer was estimated to be only 11,000 acre feet/annum, or 13,568ML/year.

The construction of the weirs increased the estimated yield to 19,700ML. During the period 1982-1986 the average annual volume pumped was estimated at 13,890ML. The maximum annual volume pumped was 17,914ML in 1986.

The first weir constructed was the Giru Weir in November 1977. The second weir was the Val Bird weir, completed in February 1983. The Healey's diversion was completed in June 1983. Water meters were introduced in 1981-1982 and a water charge was levied.

In September 1987, the GBA was supplemented with water from the Burdekin River. The annual volume used increased from 17,612ML in 1988 to 36,653ML in 1994.

From 1987, the GBA included areas upstream with access to water being released from the Haughton channel/balancing storage. Through the water planning process this area became Haughton Zone A.

The first allocation from the Burdekin River to be sold into the GBA (Haughton Zone A) was to be used as surface water pumped directly from the Haughton River and Healey's Lagoon. In 1993 allocation was made available for purchase from the groundwater.

By the 30th of June 1994, licences authorising the use (allocations) of 34,549ML had been issued. At that time the cap on available allocations for this area was 39,400ML.

The GBA has continued to evolve. Irrigation was initially undertaken based on the ground water resource. As development of the area increased various infrastructure was developed to improve the groundwater yield. In particular:

- Giru Weir -
- Val Bird Weir
- Healey's (Ironbark creek) diversion
- Sand dams
- Supplementation of the Haughton River with Burdekin Supplies
- Healey's Relift (to cater for the decommissioning of the inflatable bag on Val Bird), and finally
- Reed Beds pump station and pipeline

With the exception of the Reed Beds, all pump stations were aimed at increasing groundwater yields. The Reed Beds pump station targeted distribution efficiency and high groundwater levels.

Two periods of large water shortages dominated the early period, 1936 to 1938 and 1968 to 1970. Studies were carried out to assess the value of bringing water from the Burdekin River across to

the Haughton to (a) supplement the aquifers, (b) lift the yearly reliability and (c) help through the periods of low and no-flows in the Haughton River. Both rivers experienced low to no-flows during the same periods indicating the only way to address the reliability was to build more storage capacity within the Burdekin River. The studies also recognised that at least 24,670ML/year, allowing for losses, would need to be diverted from the Burdekin River to cover the dry periods and meet the requirements of 1971.

With the supplementation of the GBA (Haughton Zone A) from the Burdekin Dam the assessments for requirement at the time indicated that the area required about 50% of the water supply to be imported to supplement natural yield from the groundwaters.

The numbers have changed as the area has developed, but the accepted balance of groundwater and surface water remains at approximately 20,000ML from each source. This was later accepted as part of the water planning processes. The Interim Resource Operations Licence (IROL) released in 2000 had the total of the ground and surface water allocation in the GBA (Haughton Zone A) at 40,249ML. Of this 19,700ML was supplied by the Haughton River yield and 20,549ML from the Burdekin River. This was then reflected in the 2007 Water Resource Plan (WRP) and 2009 Resource Operations Plan (ROP).

In the 2006 -2011 SunWater Pricing Review, the charge for Irrigators in the GBA (Haughton Zone A) was assessed as half the total channel rate, excluding the drainage charge (bulk plus distribution, excluding the drainage charge). This discount applied for any usage up to twice the assessed Haughton River yield. (19,700ML x 2) Water used/purchased above this limit was to be charged at full channel prices, excluding drainage charges.

The Queensland Competition Authority (QCA) was commissioned in 2010/11 (as part of the SunWater Irrigation Pricing Review 2012 – 2017 BHWSS) to set the prices for the GBA. As part of the review QCA investigated the supplementation requirement from the Burdekin River through the Haughton main channel and the cost allocation of that requirement. The original Interim Resource Operation Licence (IROL) numbers were used in that assessment process:

Total Allocation	Haughton River Contribution	Burdekin River Contribution
40,249ML	19,700ML (49%)	20,549ML (51%)

No change was recommended to the charges if they were to go above the modelled supplemented requirement of 20,549ML.

QCA recommended that SunWater should (a) investigate the hydrological circumstances of the GBA to confirm the current cost allocation, or (b) negotiate alternative arrangements with the irrigators.

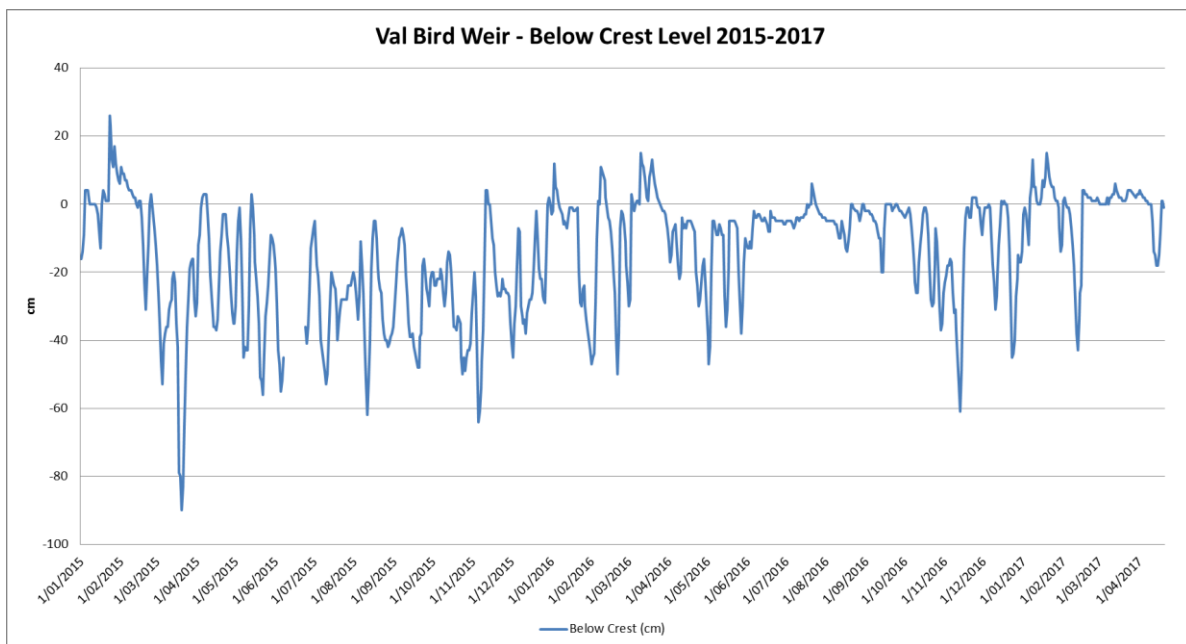
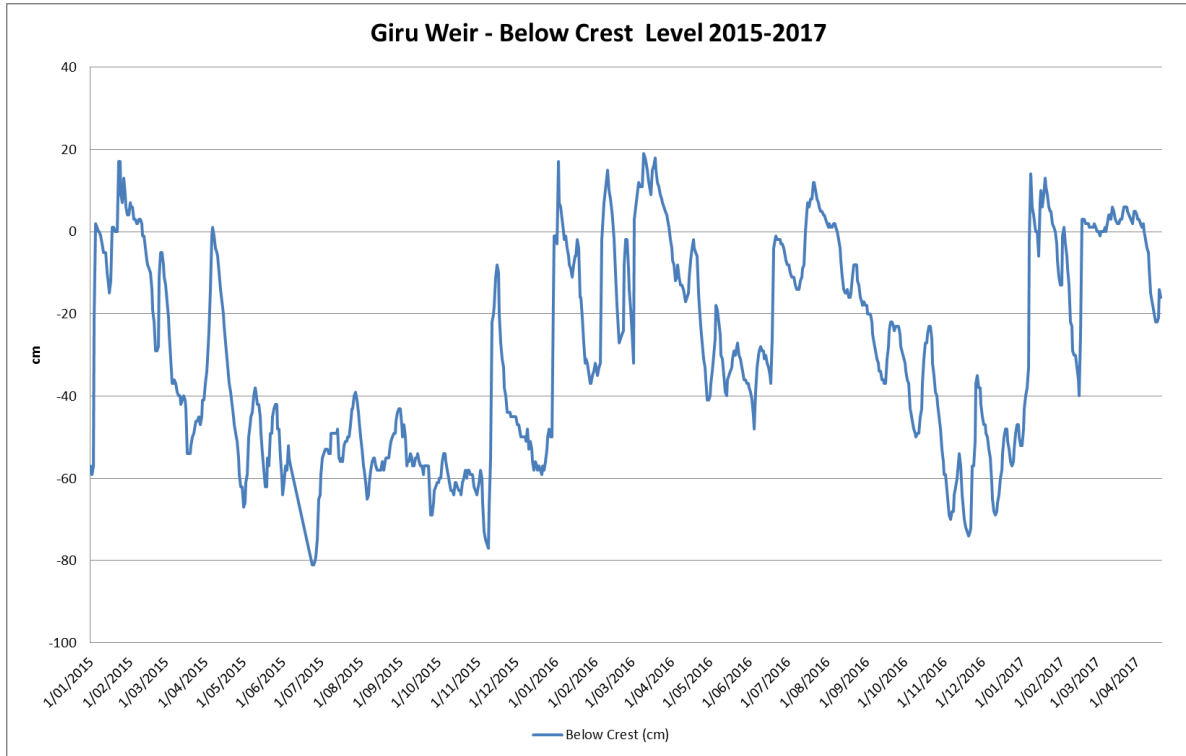
3.2 Operations and Uses of Water

3.2.1 Irrigation

The main crop irrigated is Sugar Cane. The system essentially contains a release point from the Haughton River Balancing Storage. The operational rules are contained in Section 85 and Table 5 of the Resource Operations Plan but SunWater has been operating under an interim program prior to the completion of the weir outlet works upgrade at Giru weir (July 2017). At an operational level the current operational rules are based on maintaining the following levels:

Val Bird Weir	Giru weir	Healy's lagoon
0.4 – 0.7 below crest	0.5 below crest	Level to be specified

The strategy since 2015 has been to run both Val Bird and Giru Weirs at 40 to 70cm below crest to maximise the opportunity to capture Houghton River yield during rain events. During peak demand (October to March) SunWater runs both weirs at approximately 10-20cm below crest to ensure the weir ponded level is not lost by (a) customer high demand and (b) water not being ordered.



Discussions with current operators have indicated that the intended purpose of the Reed Beds Pump Station has been lost in history. It is believed the Reed Beds Pumps Station was primarily designed to limit the “losses” caused by keeping the lagoon upstream of the Bruce Highway at full levels, a situation that created increased recharge to groundwaters, resulting in elevated

groundwater levels. The inclusion of the pump station allowed the demands downstream to be met by pumping water direct to the farms as required. In time, this also lowered the levels in the lagoon and, consequently, also lowered the groundwater levels.

4. WATER USAGE

The SunWater (2008) review of the actual performance of this system indicated that the balance being achieved was significantly less than anticipated.

Table 1: Estimation of Anticipated and Achieved Water Balance

Year	Released to Haughton River	Delivered	Efficiency*of total usage Haughton Zone A
1997/98	22,873	28,297	124%
1998/99	4,406	18,618	423%
1999/00	25,138	22,832	91%
2000/01	14,160	27,315	193%
2001/02	43,685	48,059	110%
2002/03	60,037	51,253	85%
2003/04	42,453	42,485	100%
2004/05	45,257	48,609	107%
2005/06	32,136	33,125	103%
2006/07	31,556	37,937	120%
Average	32,170	35,853	111%

Under the current water pricing framework used by QCA as path of the current price path, the area should be achieving close to 200% efficiency on the water released from the balancing storage into the Haughton River with the recharge and natural flows from the Haughton River. The data from table 1 suggests that, on average, the release to the Haughton river makes up 90% of the metered usage.

Table 2 provides the latest data from SunWater listing the diversion and usage figures for Haughton Zone A, with usage split into Surface and Groundwater. Note the diversion from the balancing storage includes all water released into the Haughton Zone A

Table 2: Diversion and Usage Figures for Haughton Zone A

Year	Diversion from Balancing Storage (ML)	Total Water Use Haughton Zone A SW & GW (ML)	All Haughton Zone A SW (ML) Metered Usage	All Haughton Zone A GW (ML) Metered Usage	SW Customers usage above GBA	Efficiency of total usage in Haughton Zone A
2005/06	32,136	33,994	20,666	13,328	5,317	106%

2006/07	31,556	37,984	24,497	13,487	7,782	120%
2007/08	22,018	30,742	19,479	11,263	6,160	140%
2008/09	19,101	27,061	16,280	10,781	4,049	142%
2009/10	38,465	35,571	22,936	12,635	5,590	92%
2010/11	5,872	6,677	3,853	2,824	1,506	114%
2011/12	29,603	20,387	12,513	7,874	2,769	69%
2012/13	26,873	20,610	12,244	8,366	1,340	77%
2013/14	44,671	29,668	17,857	11,811	2,774	66%
2014/15	47,405	46,422	32,028	14,394	10,210	98%
2015/16	47,019	47,031	31,655	15,376	9,952	100%
Average	31,338	35,781	24,678	11,103	5223	102%

Note:

- (a) The efficiency of total usage in Haughton Zone A is based on water released from the Haughton balancing storage and does not include the losses incurred in getting the water to there.
- (b) Maintenance and upgrade of both Bulk and Customer meters over the last 5 years has improve accuracies.
- (c) The year with the highest amount of metered water usage is 2015/16 being 47,031 which is well short of the Maximum allowable water use volume for Haughton Zone A of 57,978ML.

Table 3: ROP Maximum allowable water use volumes for the Burdekin Haughton Water Supply Scheme

Zone / zone group	Maximum allowable water use volume (ML)
Burdekin A	370 000
Burdekin B	370 000
Burdekin C	950 000
Burdekin D	75 000
Burdekin E	50 000
Haughton A	57 978
Lower Burdekin	370 000

Table 4: ROP Permitted distributions in the Burdekin Haughton Water Supply Scheme

Zone / zone group	High Priority Group Allocations		Medium Priority Group Allocation	
	Minimum total nominal volume (ML)	Maximum total nominal volume (ML)	Minimum total nominal volume (ML)	Maximum total nominal volume (ML)
Burdekin A	0	20,000	267,944	350,000
Burdekin B	0	20,000	0	350,000

Burdekin C	0	100,000	524,892	850,000
Burdekin D	0	50,000	0	25,000
Burdekin E	0	25,000	0	25,000
Haughton A	0	8,800	29,178	49,178
Lower Burdekin	0	20,000	267,944	350,000

5. ALLOCATION BY TYPE, USAGE, AND AREA

The Burdekin Haughton Water Supply Scheme (BHWSS) is a combination of new and old schemes developed in the mid-1960's through to the 1990's. It consists of 6 main delivery sections, with Clare, Millaroo and Dalbeg deemed the old area's (originally developed for Tobacco and small crop farming) and Barratta, Haughton and Elliot the more recent sections (developed for larger crops such as rice and now primarily sugar cane).

Table 5: The following tables provide details of the system allocation and seasonal use as at 2008 (Source SunWater 2008 Scheme Modernisation Report)

Allocation/Usage (ML/year)				Estimated Area (Ha)
Region	Section	Allocation	Usage	
Dalbeg		11,419	11,964	1,513
Millaroo		22,648	21,395	2,898
Clare		26,629	28,023	3,453
Barratta	BMC	108,047	98,489	13,800
	Mulgrave	40,338		4,763
	Mona Park			
	Jardine	30,897		3,998
Haughton	Northcote	36,812		5,039
	HMC	94,583	86,147	11,440
	Haughton	44,041		5,164
Selkirk	50,542	6,276		
Elliot		15,631	15,348	1,915
Glady's Lagoon		1,752	1314	222
Haughton Zone A		40,184	35,781	5,084
Townsville Pipeline		10,000		
Totals		330,893		40,325

Note: Estimates are based on 2008 data and must only be used as an estimate for cropping areas, water usage and allocations.

6. WATER CHARGES 2012/19

The current water charges for the BHWSS were set as part of the QCA SunWater Irrigation Price Review: 2012-17. This Price Path period has now been extended out 2 years to 2019. The price review was separated into two areas, Bulk, and Distribution.

Bulk Water Prices: The review continued to allow the Haughton weirs to be a part of the total BHWSS bulk assets. This ensured the GBA (Haughton Zone A) customers were charged a full lower bound bulk water charge.

Distribution Water Prices: The review adopted the data from the SunWater IROL with 49% of the allocation and metered use coming from natural yield and 51% required to come from the Burdekin River through the distribution network.

Any water allowed to be extracted from a regulated stream (e.g. the Haughton River), is referred to as “available system yield”. When that water is captured/made available by weirs, relifts, diversions and recharge areas being managed by a Resource Operation Licence Holder, it is referred to as “Supplemented Allocation”, and not “natural yield”.

QCA recommended that SunWater investigate the hydrological circumstances of the GBA to confirm the current cost allocation, or negotiate alternative arrangements with the irrigators.

6.1 Prices 2016/17

The prices for the Haughton Zone A area are described in the QCA and SunWater pricing documents as the Giru Ground water area.

From 1987, the GBA has included areas upstream with access to water being released from the Haughton channel/balancing storage. All pricing for supplemented water in the Haughton should be referred to as “Haughton Zone A”, and not the GBA nor Giru Groundwater Area.

Table 6: Water Access Entitlements within the distribution scheme

Customer Group	Irrigation WAE (ML)	Total WAE (ML)
Medium Priority	280,801	280,801
Medium Priority Haughton Zone A	40,184	40,184
Medium Priority Distribution Losses	183,927	190,477
High Priority	0	10,000
High Priority Distribution Losses	15,701	16,260
Total	520,613	537,722

Table 7: QCA Recommended Prices 2016/17

Area	Product		\$/ML
Burdekin River	Allocation Charge	Bulk Fixed Part A	12.53
	Allocation Water	Bulk Usage Part B	0.54
		Total cost per ML used	13.07
Burdekin Channel	Allocation Charge	Bulk Fixed Part A	12.53
	Allocation Charge Distribution	Distribution Fixed Part C	23.46
	Allocation Water	Bulk Usage Part B	0.54
	Allocation Water Distribution	Distribution Usage Part D	27.49
		Total cost per ML used	64.02
Haughton Zone A	Allocation Charge	Bulk Fixed Part A	12.53
	Allocation Charge Distribution	Distribution Fixed Part C	8.01
	Allocation Water	Bulk Usage Part B	0.54
	Allocation Water Distribution	Distribution Usage Part D	13.76
		Total cost per ML used	34.84
Glady's Lagoon Above Natural yield of 360ML	Allocation Charge	Bulk Fixed Part A	12.53
	Allocation Charge Distribution	Distribution Fixed Part C	22.16
	Allocation water	Bulk Usage Part B	0.54
	Allocation water distribution	Distribution Usage Part D	27.49
		Total cost per ML used	62.72

Table 8: QCA Cost Reflective Prices 2016/17

Area	Product		\$/ML
Burdekin River	Allocation Charge	Bulk Fixed Part A	3.96
	Allocation Water	Bulk Usage Part B	0.54
		Total cost per ML used	4.50
Burdekin Channel	Allocation Charge	Bulk Fixed Part A	3.96
	Allocation Charge Distribution	Distribution Fixed Part C	36.31
	Allocation Water	Bulk Usage Part B	0.54
	Allocation Water Distribution	Distribution Usage Part D	27.49
		Total cost per ML used	68.30
Haughton Zone A	Allocation Charge	Bulk Fixed Part A	3.96
	Allocation Charge Distribution	Distribution Fixed Part C	16.58
	Allocation Water	Bulk Usage Part B	0.54
	Allocation Water Distribution	Distribution Usage Part D	13.76
		Total cost per ML used	34.84
Glady's Lagoon Above Natural yield of 360ML	Allocation Charge	Bulk Fixed Part A	3.96
	Allocation Charge Distribution	Distribution Fixed Part C	36.31
		Bulk Usage Part B	0.54

	Allocation water Allocation water distribution	Distribution Usage Part D	27.49
		Total cost per ML used	68.30

7. PRICING OPTIONS

7.1 Option 1

Continue under the same pricing processes and let the customers in the distribution scheme accept the added cost of providing the water through the distribution scheme to Haughton Zone A. On average over the last 19 years 31,723ML/year has been released to the Haughton from the balancing storage which is 11,174ML/year more than the 20,549ML assumed by the current price path.

Table 9: 1998 to 2016 releases and usage in ML

Year	Diversion from Balancing Storage (ML)	Total Water Use Haughton Zone A SW & GW (ML)	Percentage of water required to be delivered from the Balancing Storage
1997/98	22,873	28,297	81%
1998/99	4,406	18,618	24%
1999/00	25,138	22,832	110%
2000/01	14,160	27,315	52%
2001/02	43,685	48,059	91%
2002/03	60,037	51,253	117%
2003/04	42,453	42,485	100%
2004/05	45,257	48,609	93%
2005/06	32,136	33,125	97%
2006/07	31,556	37,937	83%
2007/08	22,018	30,742	72%
2008/09	19,101	27,061	71%
2009/10	38,465	35,571	108%
2010/11	5,872	6,677	88%
2011/12	29,603	20,387	145%
2012/13	26,873	20,610	130%
2013/14	44,671	29,668	151%
2014/15	47,405	46,422	102%
2015/16	47,019	47,031	100%
Averages	31,723	32,774	97%

7.2 Option 2

Base the pricing on the average requirement to be delivered from the Burdekin with the metered usage (97% from table 9) and set the same price across all water users within Haughton Zone A. The cost would be 97% of the total Burdekin channel cost, as shown in table 10.

Table 10: Costs spread across the total Haughton Zone A at 97% of Channel Costs.

Zone	Allocation	Distribution	2016/17 QCA cost reflective	97% channel requirement
Haughton Zone A	Allocation Charge	Bulk Fixed Part A	\$3.96	\$,3.96
	Allocation Charge Distribution	Distribution Fixed Part C	\$16.58	\$35.22
	Allocation Water	Bulk Usage Part B	\$0.54	\$0.54
	Allocation Water Distribution	Distribution Usage Part D	\$13.76	\$26.67
Total cost per ML used			\$34.84	\$66.39

7.3 Option 3

Charge all surface water users within the Haughton Zone A the full cost of the Burdekin Channel price and the supplemented ground water users 50% of the Burdekin channel price as shown in table 11.

The weirs within the Haughton River provide very little water storage capacity to surface water users and were primarily designed and built to help recharge the groundwaters. The only real storage capacity within the Haughton River is to the groundwaters.

Before water was released from the Burdekin across to the Haughton, the surface water users within the Haughton had a very different level of assessment and reliability of supply. The historical stream flow data from the Haughton, and the continual reliance on the releases from the channel, demonstrate this.

Table 11: Costs split between Ground Water and Surface water using 2016/17 QCA cost reflective data.

Zone	Allocation	Distribution	Cost
Haughton Zone A Surface Water	Allocation Charge	Bulk Fixed Part A	\$3.96
	Allocation Charge Distribution	Distribution Fixed Part C	\$36.31
	Allocation Water	Bulk Usage Part B	\$0.54
	Allocation Water Distribution	Distribution Usage Part D	\$27.49
Total cost per ML used			\$68.30
Haughton Zone A Groundwater	Allocation Charge	Bulk Fixed Part A	\$3.96
	Allocation Charge Distribution	Distribution Fixed Part C	\$16.58

	Allocation Water	Bulk Usage Part B	\$0.54
	Allocation Water Distribution	Distribution Usage Part D	\$13.76
Total cost per ML used			\$34.84

8. WATER SHARING RULES

Water sharing rules are a means of sharing the capacity of the channel / distribution network. Some work has been done by SunWater over the last 5 years for the properties supplied directly from the distribution scheme. However, it has excluded the water released from the Haughton Balancing Storage. The Haughton Balancing Storage is a release point for Townsville City Council (TCC) and the Haughton Zone A area.

As the demand for surface water within the Haughton River has grown, so has the issue of the capacity of the distribution network to deliver. Some water sharing issues within the Haughton Zone A are offset by the capacity of the Balancing Storage and the Weirs within the Haughton. The Townsville City Council have assisted this by not drawing on their full share of the system capacity.

In the 2013/14 water year, there were issues of supply for irrigators within the Haughton Zone A. Table 2 demonstrates that in 2013/14 the efficiency rating of the water released from the Balancing Storage to metered usage dropped to the worst on record (66%).

SunWater has stated the reduction in usage was directly associated with difficulty meeting demand due to excessive aquatic weed growth in the channels restricting channel capacity. The aquatic weed maintenance program has been updated since this event and weed growth is actively managed to maintain flow capacity.

9. RECOMMENDATIONS

9.1 Natural Yield

As noted above in Section 6, any water extraction permitted from a regulated stream, as with the Haughton River, is referred to as “available system yield” or “unsupplemented yield”. When captured, or made available by weirs, dams, relifts, diversions and recharge areas, it is referred to as “supplemented allocation” and not “natural yield”.

Recommendation:

It is recommended that all BHWSS allocations made available in the Haughton Zone A be referred to as “supplemented allocation” and not “natural yield”. All charges applied to the groundwater users should then be treated as BHWSS bulk water for pricing purposes.

9.2 Haughton Zone A

From 1987 onwards, the GBA included areas upstream with access to water being released from the Burdekin Falls Dam, as part of the BHWSS.

Recommendation:

It is recommended that all the supplemented water area in the Haughton be referred to as the “Haughton Zone A” and not the GBA or Giru Groundwater Area to ensure clarity.

9.3 Bulk and Distribution Assets

The Haughton Zone A was a part of the development of the BHWSS and should always be considered as a section of the scheme. If the cost of maintaining the bulk water infrastructure in the Haughton was only charged to the Haughton customers it would put upward pressure on prices for that area. The Bulk water infrastructure within the Haughton must always be considered as part of the BHWSS and treated as BHWSS bulk water infrastructure for the purposes of pricing.

Recommendation:

It is recommended that the assets within the Haughton Zone A be treated as bulk water assets (i.e. as adding to the total supplemented system yield of the BHWSS).

9.4 Water Pricing

The weirs within the Haughton River provide very little water storage capacity to surface water users and were primarily designed and built to help recharge groundwaters. The only real storage capacity within the Haughton Zone A is the Groundwater recharge area.

Prior to water being released from the Burdekin across to the Haughton, the surface water users within the Haughton had a very different level of assessment and reliability of supply. The stream flow data from the Haughton and the continued reliance on the releases from the Balancing Storage demonstrate this.

Recommendation:

It is recommended that all surface water users within the Haughton Zone A should be charged the full bulk and distribution price, and the ground water users be charged 50% of the distribution and 100% of the bulk price.

9.5 Timing of the changes to water pricing

Recommendation:

It is recommended that the timing of the changes to water pricing for the Haughton Zone A should coincide with the next pricing review. This will allow SunWater to establish the required systems to allow pricing variations to be made between surface water and groundwater allocations in the Haughton.

9.6 Water Sharing Agreement – Haughton Zone A

As the demand for surface water within the Haughton River has grown, so has the issue of the capacity of the distribution networks ability to deliver.

Recommendation:

It is recommended that a Water Sharing process be developed for the Haughton Zone A section of the scheme before there is a water year worse than 2013/14. This will be exacerbated if Townsville City Council require their full pipeline water share.

10. REFERENCES

Committee Report on Options for water Allocation, Haughton River, and Giru Benefited Area July 1995

Irrigation and Water Supply Commission Report on Improvement to water Supplies, Haughton River (Giru Area)

QCA SunWater irrigation price review:2012-17 Volume 2 Burdekin- Haughton Water Supply Scheme

QCA SunWater Irrigation price review:2012-17 Volume 2 Burdekin-Haughton Distribution System
Burdekin Basin Resource Operations Plan Amended October 2010 Revision 2

Water Plan (Burdekin Basin) 2007, Current as at 3 February 2017

SunWater SAP system data for Haughton releases

SunWater data on metered usage

Stream flow data from SunWater Haughton River at the powerlines 119003A and Haughton River at Mount Piccaninny 119005A

SunWater maps for areas of metered usage