

# Mary Valley Water Supply Scheme

# Network Service Plan

## 1. Introduction

### Review Context

The QCA has been directed by the Queensland Government to develop irrigation prices for the Mary Valley Water Supply Scheme (the Scheme) for the four-year regulatory period 1 July 2013 to 30 June 2017.

The QCA is required to provide a draft report including draft irrigation prices by 30 November 2012 and a final report with recommended price paths by April 2013.

The current irrigation prices were set when the Scheme was owned by SunWater, and commenced from 1 July 2006. The Scheme was transferred to Seqwater in 2008-09, along with the SunWater pricing arrangements. This is the first review of irrigation prices since the Scheme has been in Seqwater ownership.

This document is the Network Service Plan (NSP) for the Scheme. It sets out information relevant to the QCA's review, including Seqwater's expenditure proposals over the regulatory period and specific pricing proposals for the Scheme.

It should be noted that this review is occurring alongside a separate review of Grid Service Charges, and that certain costs also form part of that review, although over a different timeframe.

### About Seqwater

Seqwater owns different types of water supply assets and service types, namely:

- Storage assets - Seqwater owns 26 dams and 48 weirs which provide bulk water storage services to a range of water entitlement holders in South East Queensland, including irrigators, local governments, industrial users and the SEQ Water Grid Manager (WGM);
- Bulk distribution assets - Seqwater also provides distribution system services to irrigators from pipelines and channel systems;
- Water treatment assets - Seqwater provides drinking water to the WGM from 46 water treatment plants;
- A desalination plant - provides bulk drinking water to the WGM;
- An advanced recycled water scheme, which provides treated recycled water to the WGM;

- Groundwater - Seqwater provides drinking water to the WGM from 14 groundwater bore fields.

Seqwater owns, manages and operates physical assets with a book value of \$6.3 billion. Seqwater provides irrigation services to around 1,200 rural customers in seven water supply schemes.

Seqwater also owns unregulated assets such as its head office building at 240 Margaret Street, water entitlements held for trading in the Upper Mary Water Supply Scheme, and two hydro-electricity plants. No costs of these assets are attributed to regulated assets.

Seqwater's total regulated revenue allowance for 2011-12 was \$705M to \$709M, of which some \$3.3M relates to irrigation supplies. Of this \$3.3M, some \$1.9M is sourced directly from irrigation charges, with the balance sourced from a Community Service Obligation (CSO) payment.

## Interpretation of terms used

For the purposes of this NSP, the following terms are defined as follows:

**Water Access Entitlement (WAE)** – means water allocations, interim water allocations or water licences.

## Scheme background and context

The Scheme is located within the Mary River Basin south of Maryborough. It supplies water for irrigation, urban, and industrial water supplies.

The Scheme is regulated under the Mary Basin Resource Operations Plan (ROP) issued September 2011. Prior to this date, the scheme was regulated under the Interim Resource Operations Licence (Upper Mary River Water Supply Scheme) issued in July 2008. A previous licence was granted to SunWater on 10 November 2000 for the Mary River Water Supply Scheme, which provided for three sub-schemes being the Mary Valley Water Supply Scheme, the Cedar Pocket Dam Water Supply Scheme and the Lower Mary Water Supply Scheme. The 2008 IROL was issued as a result of the transfer of the Mary Valley Water Supply Scheme and the Cedar Pocket Dam Water Supply Scheme from SunWater to the Queensland Bulk Water Supply Authority on 1 July 2008. The Cedar Pocket Dam Water Supply Scheme is the subject of a separate Network Service Plan.

The scheme consists of bulk water supply assets although the Pie Creek system is supplemented by channels and pipes distributing water diverted from the Mary River. There are no distribution systems associated with this scheme. All irrigators take their water supply directly from the natural water courses.

The map in section 2 below presents an overview of the Scheme, including the locations of storages and monitoring/gauging stations.

## **Customers served**

The Scheme supplies water to:

- Irrigation users;
- Gympie Regional Council;
- Industrial customers;
- Seqwater; and
- SEQ Water Grid Manager.

Further details are set out in section 2 below.

## **Asset base**

The asset base of the Scheme consists of bulk water storage assets. These assets are listed in section 2 below and details of individual assets can be found in Appendix A.

## **Organisational resourcing arrangements**

Seqwater is well advanced in transitioning its resourcing arrangements from those inherited in July 2008. Key achievements include:

- replacing service level agreements with previous asset owners (e.g. Councils) with internal staff appointments;
- negotiating a single enterprise bargaining agreement (refer below) to standardise work conditions; and
- developing and refining the structure of the organisation and recruiting the necessary resources.

Seqwater has also substantially completed its procurement arrangements for external resources, including consultants and contractors. Seqwater continues to outsource many maintenance activities for its assets, usually with local suppliers. In most cases suppliers were providing similar services to the previous asset owner, and Seqwater has retained these contractors to ensure continuity in asset performance and retention of asset knowledge.

Seqwater inherited 14 different enterprise agreements which required 47 separate payroll runs. Seqwater has since consolidated these into a single enterprise agreement, with a single payroll.

The enterprise agreement process also provided for more standardised work hours and overtime arrangements, and included the establishment of a 38 hour week.

The standardisation achieved through a single enterprise agreement has allowed more streamlined systems to be implemented, reducing the implementation costs for the payroll system and enabling a reduction in the number of staff required to administer the payroll from seven to two.

Seqwater's current enterprise agreement, which was certified on 2 November 2009, will expire on 30 June 2012. Seqwater is now meeting with all unions in regards to a replacement agreement.

## **Key systems and processes**

Seqwater also inherited a diverse range of systems and business processes from previous asset owners. Since 2008-09, Seqwater has given priority to developing its systems so that they can support the business and enable more streamlined business processes.

Seqwater is in the second year of using its Corporate Information System (CIS) and has completed a post implementation review across all modules. As a result, Seqwater is committed to a series of continuous improvements for better business performance.

Seqwater is continuing with its program of end-to-end process reviews to identify improvements and generate cost savings in performing its business support and related activities.

## **Asset management**

Asset management practice within Seqwater does not distinguish between irrigation and non-irrigation assets. Assets are managed as a portfolio and not on an industry sector basis.

Seqwater acquired the Mary Valley Water Supply Scheme from SunWater Limited. While the physical assets were transferred, much of the asset history was not. The staff members who also transferred to Seqwater were mostly operations rather than maintenance staff. This meant that corporate asset management knowledge was not transferred along with the assets.

Seqwater's maintenance and renewals program is evolving and moving towards industry best practice. However, this process is resource-intensive and relies on a long history of quality, consistent asset information before reaching full maturity.

Seqwater's maintenance tasks and associated expenditure follows three broad categories:

- Scheduled maintenance – which relates to regular maintenance items that are planned in advance;
- Corrective maintenance – relating to maintenance that is made in reaction to events or new information/inspections during the year; and
- Strategic asset maintenance – which relates to asset replacements and renewals and involves a mix of operating and capital expenditure.

Seqwater uses the Asset Management module within CIS to plan and schedule asset maintenance work. Work orders are produced on the system for each parcel of work required to be performed to capture the costs of performing the work.

Renewals and refurbishments are determined through a strategic asset management process. This process and its outcomes are documented in Facility Asset Management Plans (FAMPs), which are being rolled out across all assets. Irrigation assets are currently not as advanced in this process as the high-priority water treatment plants.

## **Procurement**

Seqwater complies with the State Procurement Policy (SPP). Policies, procedures and processes consistent with, and supporting, the requirements of the SPP have been developed and are in operation. Where possible, procurement processes are system based using the Supply Chain Module in Seqwater's Corporate Information System (CIS).

Procurement activities are undertaken at all business sites.

Seqwater's Procurement Team monitors and analyses a range of performance indicators to identify opportunities to improve performance and minimise costs.

Seqwater is currently reviewing its "procure to pay" process to streamline the procurement of services and goods, management of delivery and payment for services.

## **Customer and Financial Management**

Customer information management including invoicing and accounts receivable operations for the Scheme are carried out from Seqwater's Karalee office. Financial management including financial reporting and accounts payable processing is centralised in Seqwater's

Finance group in the Margaret Street office. Accounts payable is carried out using the AP module in CIS.

## **Insurance**

Seqwater's portfolio of assets is insured with differing premium and deductible arrangements in place for bulk water and channel distribution systems. This requires specialist management of the insurances held, including management of claims and renewals and providing information to insurers and brokers.

Insurance premiums are obtained for a portfolio of Seqwater assets.

Although insurance premiums have not been allocated directly to schemes previously, these costs will be properly allocated to each WSS in future.

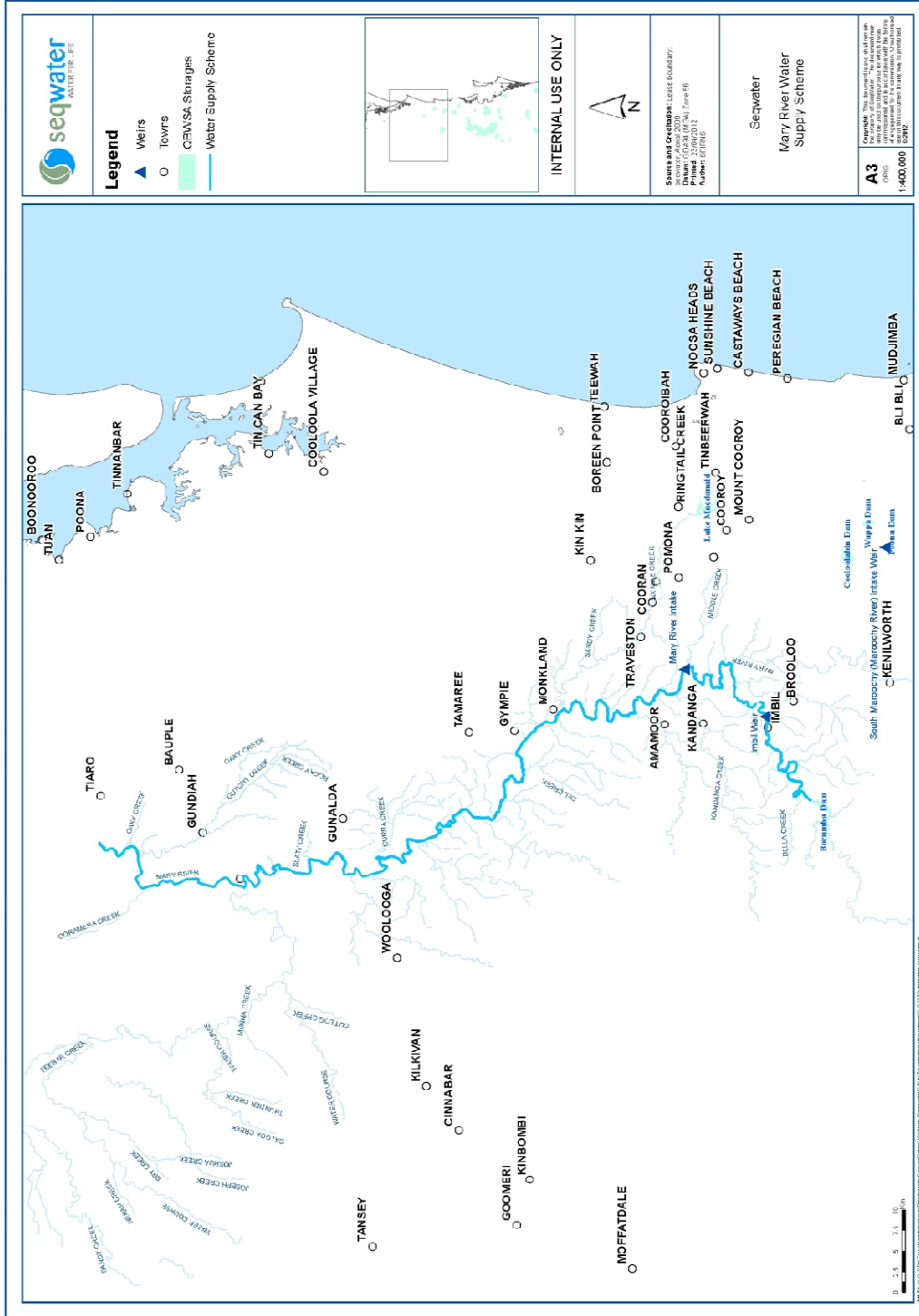
## **2. Scheme details**

The Scheme was established to support irrigation in sugar, dairy and horticulture sectors following construction of Borumba Dam in 1963.

Seqwater owns and operates the infrastructure in the Scheme under the authority of the ROP for Mary Basin issued September 2010.

The water year runs from 1 July to 30 June each year.

# Scheme map





## Infrastructure details

The table below sets out the bulk water assets that comprise the scheme.

**Table 2-1. Bulk water assets**

Dams	Borumba Dam
Weirs	Imbil Weir
Off-stream storages	Nil
Other assets	Pie Creek Pump Station; gauging stations; measuring weirs; channels

For details of the assets, see Appendix A

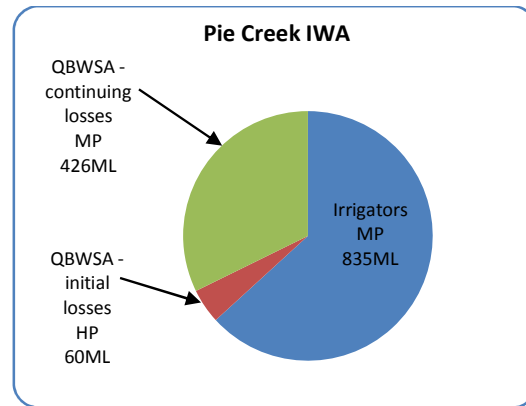
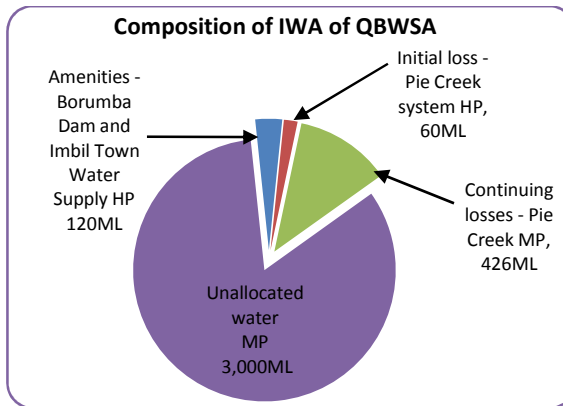
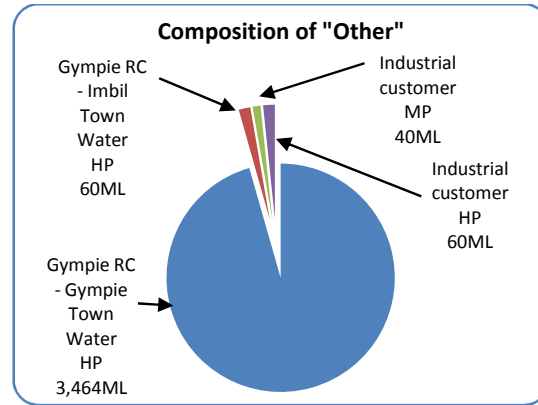
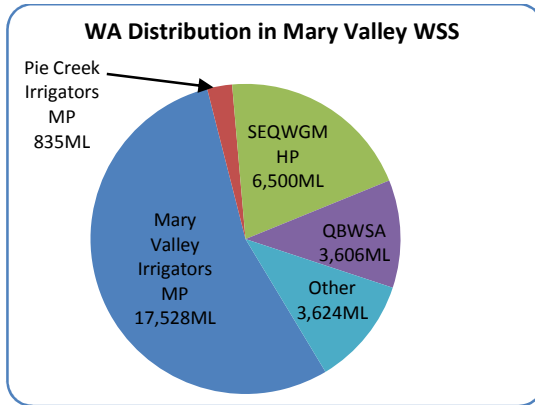
## Customers and water entitlements serviced

Mary Valley supplies water to:

- Mary Valley irrigation users, comprising 205 customers who hold 17,528ML of medium priority WA;
- Pie Creek irrigation users, comprising 51 customers who hold 835ML of medium priority WA;
- One industrial user who holds 40ML of medium priority WA;
- One industrial user who holds 60ML of high priority WA;
- Gympie Regional Council which holds 3,524ML of IWA;
- SEQ Water Grid Manager, who holds 6,500ML of high priority WA; and
- QBWSA, which holds 3,426ML of medium priority WA and 180ML of high priority WA.

The following charts illustrate the distribution of WA amongst classes of customers.

2013 – 2017 IRRIGATION PRICING SUBMISSION TO QCA



Source: Logan Basin Resource Operations Plan which was approved by the Governor in Council in December 2009 and Seqwater's customer information data.

This table sets out the ownership (as at 30 June 2011) of water entitlements in the Mary Valley including Pie Creek.

**Table 2-2. Ownership of Entitlements**

Customer Type	No. of customers	MP Volume (ML)	HP Volume (ML)	Notes
Mary Valley irrigators	205	17,528	-	
Pie Creek irrigators	51	835	-	
Gympie Regional Council	1	-	3,524	
Seqwater	-	-	120	Amenities water
Distribution loss - Seqwater	-	426	60	Pie Creek losses
Seqwater	-	3,000	-	Approximately 300ML is

2013 – 2017 IRRIGATION PRICING SUBMISSION TO QCA

				leased
WGM	-	-	6,500	
Industrial	2	40	60	<ul style="list-style-type: none"> <li>• 40ML MP - Nestle (also have 360ML irrigation)</li> <li>• 60ML HP - Hyne &amp; Son Pty Ltd</li> </ul>
<b>Total</b>		<b>21,829</b>	<b>10,264</b>	

This information was sourced from the Mary Basin ROP and Seqwater's customer information data.

Irrigation WAE comprise 57% of all WAE issued in the Scheme.

## Water availability and use

The announced allocation determines the percentage of nominal WAE volume that is available in a water year (1 July to 30 June). The following table sets out the announced allocation over the past nine years for medium priority WAE.

**Table 2-3. Announced allocations (%)**

Priority	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
High	100	100	100	100	100	100	100	100	100
Medium	45-100	95-100	90-100	82-100	14-100	100	100	100	100

The current irrigation price paths adopted a use forecast at 40% of the nominal amount of WAE, equivalent to 7,011ML/annum or 1,753ML/quarter for Mary River excluding Pie Creek and 292 ML/annum or 73ML/quarter for Pie Creek at 35%. This compares to actual use to date, as illustrated below.

Figure 2-1. Mary River Actual Usage 2002-11

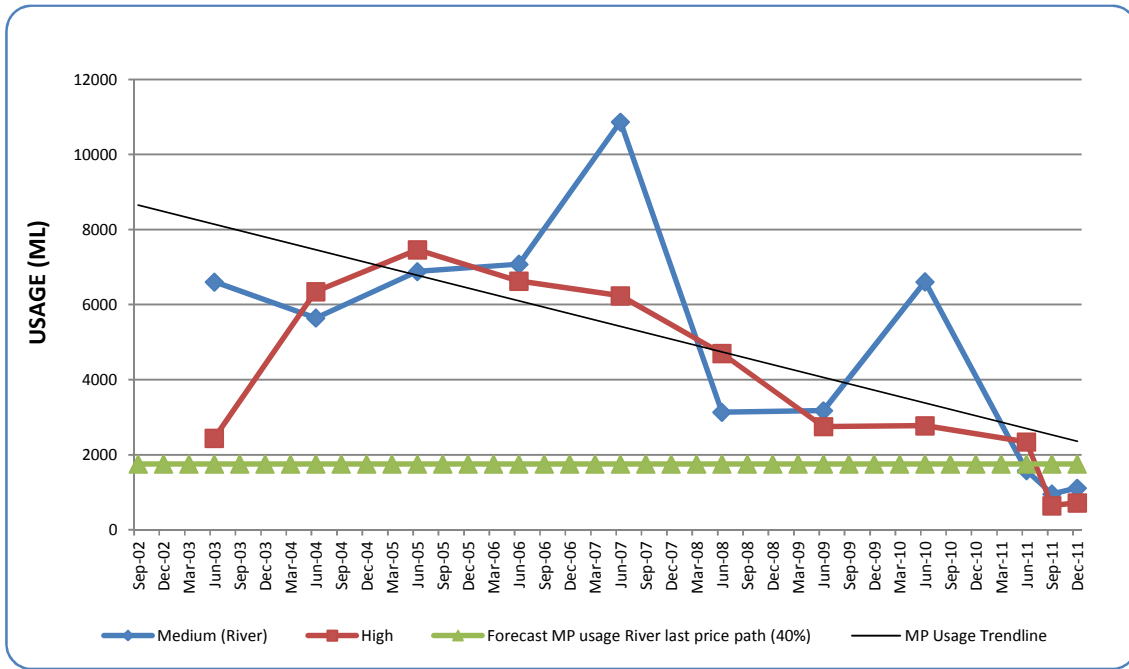
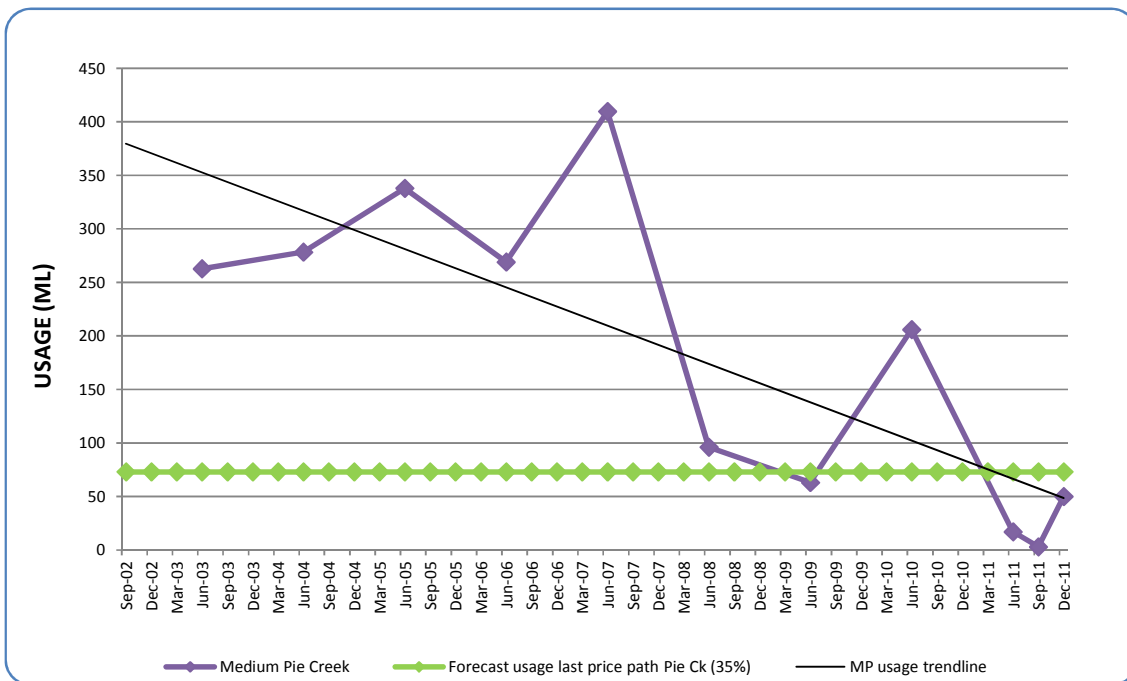


Figure 2-2. Pie Creek Actual Usage 2002-11



## Temporary transfers and leased WAE

Temporary transfers or seasonal water assignments are useful for meeting additional short-term water needs. Under these transfers or assignments, some or all of the water that may be taken under a WAE in any water year can be assigned to another person or place.

In practice, a volume of water from the amount available under the WAE may only be assigned after the announced allocation. The volume assigned is therefore not affected by any increase in the announced allocation during the water year, the benefits of which go to the holder of the WAE and not the person to whom the water has been assigned.

WAE may be leased. Unlike temporary transfers, lessees of WAE obtain the same benefits as WAE holders without holding title to the WAE.

The following table sets out the volumes of temporary transfers and leases by year from 1 July 2008 to 31 March 2012.

**Table 2-4. Temporary transfers**

Type	2008-09	2009-10	2010-11	2011-31/3/12
Temporary transfers	338 ML	1,549 ML	677 ML	552 ML
Leased WAE	256 ML	246 ML	214 ML	114 ML

## Customer service standards

The current service standards were established in consultation with customer representatives in 2001 and were carried across to Seqwater from SunWater Limited. Although it is not intended that service standards should undergo major change during the price path period, they are to be periodically reviewed on an as-needs basis such as in response to requests by customer representatives or by Seqwater. This NSP is based on the existing service standards continuing throughout the regulatory 4 year period.

The document “*Water Supply Arrangements and Service Targets*” for the Scheme is attached to this NSP in Appendix B. This document sets out the customer service standards for the Scheme.

## 2006 lower bound costs

The 2006 price review process conducted by SunWater with customer representatives established the lower bound cost for the scheme. These lower bound costs are:

- Operations and maintenance costs;
- Administration costs, including a share of overhead; and

- The cost of asset renewals, via a renewals annuity.

The lower bound cost recovery target for this Scheme is not available separately because it was calculated for the whole of the Mary River Water Supply Scheme as it existed at that time.

The lower bound cost tariff was set at \$23.51 per megalitre for the Mary Valley tariff group and the price path rose to that amount by year 5.

The lower bound cost tariff for the Pie Creek tariff group was established at \$385.87 per megalitre for the Scheme by the Tier 1 group in 2006 which translates to \$482.66 per megalitre represented in 2012-13 dollars.

## Current pricing arrangements

In the 2006-11 irrigation price review, the Upper Mary River Tier 2 group opted to retain the price cap arrangement in preference to a revenue cap. The Tier 2 group did not opt to take up a drought tariff option.

Set prices were increased based on the Brisbane – All Groups Consumer Price Index (CPI) result for the 12 months to March each year for the duration of the 2006-11 irrigation price path, continuing beyond until the determination of the 2013-17 price path.

Leading into the 2006-11 price path, set prices were recovering costs below the lower bound. In the 2006-11 price path, prices were set for Mary Valley to rise to recovery of lower bound costs over the term of the 2006-11 price path. A price path was determined for the Scheme which increased prices by \$2.50 per year. The target was reached in year 5. However, Pie Creek prices remained below lower bound and were supplemented by a CSO despite rising by \$2.50 per year. The CSO has been agreed to continue until the determination of the 2013 – 17 prices.

A two part tariff applied:

- Part A, a fixed charged payable per ML of nominal water entitlement (regardless of use); and
- Part B, which was a consumption charge.

The table below shows the prices for the scheme since 2006-07 to 2011-12 in nominal terms.

**Table 2-5. Historical Prices**

2005/06 IRRIGATION PRICE REVIEW							
MARY RIVER WATER SUPPLY SCHEME (UPPER SECTION)							
SCHEME IRRIGATION LOWER BOUND COSTS & REFERENCE IRRIGATION TARIFFS							
FINAL IRRIGATION TARIFFS							
(based in 2005/06 dollars and subject to cumulative annual indexation on 1 July each year)							
	Last Yr 2005/06	Lower Bound Cost Tariff	Year 1 2006/07	Year 2 2007/08	Year 3 2008/09	Year 4 2009/10	Year 5 2010/11
<b>MARY VALLEY (a)</b>							
Part A	\$9.28	\$14.47	\$10.15	\$10.15	\$11.42	\$12.96	\$14.47
Part B	\$6.97	\$9.04	\$6.35	\$6.35	\$7.14	\$8.10	\$9.04
<b>Total</b>	<b>\$16.25</b>	<b>\$23.51</b>	<b>\$16.50</b>	<b>\$16.50</b>	<b>\$18.56</b>	<b>\$21.06</b>	<b>\$23.51</b>
Irrigation customer nominal water allocations (ML)		17,674	17,674	17,674	17,674	17,674	17,674
Water usage forecast		40%	40%	40%	40%	40%	40%
Part A revenue share		80%	80%	80%	80%	80%	80%
Part B revenue share		20%	20%	20%	20%	20%	20%
<b>PIE CREEK *</b>							
Part A	\$46.48	\$158.89	\$28.82	\$29.84	\$30.87	\$31.90	\$32.83
Part B	\$23.25	\$226.98	\$41.16	\$42.64	\$44.11	\$45.58	\$46.90
<b>Total</b>	<b>\$69.73</b>	<b>\$385.87</b>	<b>\$69.98</b>	<b>\$72.48</b>	<b>\$74.98</b>	<b>\$77.48</b>	<b>\$79.73</b>
Irrigation customer nominal water allocations (ML)		858	858	858	858	858	858
Water usage forecast		30%	30%	30%	30%	30%	30%
Part A revenue share		70%	70%	70%	70%	70%	70%
Part B revenue share		30%	30%	30%	30%	30%	30%

**Footnotes:**

(a) The Tier 2 group elected to alter the profile of the required tariff increases to delay the required tariff increases without changing the total revenues paid to SunWater.

\* Category 3 Tariff (tariff group where it was determined it was too onerous to achieve lower bound pricing during the price path)

## Renewals accounting and forecast ARR balance

A renewals annuity approach applies to the current price paths, and is to continue to apply in accordance with the Ministerial Referral Notice.

The renewals annuity approach requires an accounting system to monitor renewals income and expenditure, to monitor the status of the renewals account or Asset Renewals Reserve (ARR). This balance can be either positive or negative, and is incorporated into the calculation of the renewals annuity itself. Interest is applied to the balance, at the same rate used to determine the original renewals annuity.

In order to calculate lower bound costs from 2013-14, a projected closing ARR balance at 30 June, 2013 must be made. The balance for the Mary Valley tariff group is forecast to be a negative balance (i.e. deficit) of \$5,639,636. The balance for the Pie Creek tariff group is forecast to be a positive balance (i.e. surplus) of \$325,512.

To calculate the respective annuity balances, Seqwater has undertaken the following steps:

- Obtained relevant data for the water supply schemes from SunWater dating back to 2001 when the existing annuity balances were established;

- Established a closing balance at 30 June 2008 based on the renewals expenditure and income over the period the schemes were owned and managed by SunWater. Seqwater sought advice and guidance from SunWater to establish these balances;
- Established a closing balance at 30 June 2011 based on actual renewals expenditure and income since the schemes were transferred to Seqwater;
- Forecast a closing balance at 30 June 2013 based on the budgeted renewals expenditure and irrigation income for the 2011-12 year and the estimated renewals income and expenditure for 2012-13;
- The availability of data necessitated that the ARR balances be calculated on an irrigation only basis prior to being converted to whole of scheme balances for tariff calculation purposes. This approach was adopted to match the availability of data at the time of preparing the draft NSPs; and
- Established unbundled balances for the Pie Creek distribution system to enable unbundled or separate irrigation tariffs to be calculated for bulk supply and distribution services. Seqwater may review this step if further analysis identifies a more suitable methodology than the approach adopted for the preparation of draft NSP ARR balances.

In calculating the closing ARR balance, Seqwater has:

- Obtained actual renewals expenditure from SunWater from 2000-01 to 2007-08 for the Scheme, and included actual expenditure following the transfer of the assets to Seqwater in the 2008-09 year for the period ending 2010-11. Renewals expenditure for 2011-12 and 2012-13 is a forecast only.
- Assigned the following percentages of renewals expenditure, consistent with the cost allocation percentage used to develop irrigation’s share of lower bound costs for the 2006-07 to 2010-11 Irrigation Price Path. The 2011-12 and 2012-13 years have been based on the percentages applicable for the 2010-11 year.

**Table 2-6. Irrigation Share of Renewals Expenditure applicable to the ARR (%)**

Tariff Group	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Mary Valley	100	100	100	100	100	100	100
Pie Creek	40.1	40.1	40.1	40.1	40.1	40.1	40.1

- Obtained the actual irrigation revenue (including CSO) from SunWater for the period 2000-01 to 2007-08 inclusive, along with actual irrigation (including CSO) revenue from 2008-09 until 2010-11 from Seqwater’s accounting system. A budget forecast is used for 2011-12 and 2012-13.



- Assigned the following percentages of irrigation revenue (including CSO) to the ARR. This percentage reflects the percentage of the renewals annuity to the total lower bound cost recovery target set for the 2006-07 to 2010-11 Irrigation Price Path. The 2011-12 and 2012-13 years have been based on the percentages applicable for the 2010-11 year.

**Table 2-7. Share of Irrigation Revenues applicable to the ARR (%)**

Tariff Group	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Mary Valley	20.1	18.3	18.5	17.8	17.2	17.2	17.2
Pie Creek	34.9	34.6	34.8	35.3	34.7	34.7	34.7

- Applied interest to closing balances for the period 2006-07 to 2013-14 at the equivalent rate used to calculate the 2007-2011 price path annuities (7.76% nominal). No interest has been applied to balances between 2000-01 and 2005-06 based on advice from SunWater that the 2001-2006 price path made offsetting adjustments on the account that no interest would apply to ARR balances in that price path.

The following table sets out irrigation renewals expenditure and revenue and the annual change applicable to the ARR for the financial years 2006-07 to 2012-13:

**Table 2-8. Annual Change in Irrigation ARR Balances (\$)**

Tariff Group	Item	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Mary Valley	Expenditure	49,139	12,749	135,150	37,732	112,927	67,574	39,724
	Revenue	(66,032)	(50,547)	(60,414)	(64,533)	(58,813)	(64,512)	(68,317)
	Change	(16,893)	(37,798)	74,737	(26,801)	54,114	3,422	(28,592)
Pie Creek	Expenditure	22,107	10,177	58,593	21,484	59,263	195,217	43,474
	Revenue	(68,633)	(59,935)	(69,296)	(72,483)	(71,723)	(75,563)	(75,810)
	Change	(46,526)	(49,758)	(10,704)	(50,999)	(12,461)	119,653	(32,336)

### 3. Proposed lower bound costs and tariffs

#### Lower Bound costs

The following provides a summary of Seqwater’s proposed lower bound costs for the Mary Valley and Pie Creek schemes. In order to determine lower bound estimates for irrigation customers, scheme costs are then attributed to irrigation customers based on an assessment of storage that relates to entitlements. Seqwater has provided more detailed information to the QCA on these costs.

None of these costs vary proportional to water demand. That is, the short run marginal cost in these schemes are \$0, and all costs are fixed.

In order to determine lower bound estimates for irrigation customers within the scheme, aggregate scheme costs are attributed to irrigation customers based on an assessment of storage that relates to irrigation entitlements.

## Operating costs

Operating activities for this scheme include service provision, compliance, recreation, and other supporting activities:

- Service provision relates to:
  - scheduling and releasing bulk water from storages, surveillance of water levels and flows in the river, and quarterly meter reading; and
  - customer service and account management.
- Compliance requirements relates to:
  - Requirements set out in the Resource Operations Plan (ROP) and Resource Operations Licence;
  - Dam safety obligations under the Water Act 2000;
  - Environmental management obligations to comply with the ROP and Environmental Protection Act 1994; and
  - Land management, workplace health and safety obligations and other reporting obligations.
- Recreation relates to the operation and maintenance of recreation facilities in the Cedar Pocket scheme; and
- Other supporting activities cover a range of services including central procurement, human resources and legal services.

## Operating cost forecasting approach

Seqwater has adopted an approach to forecasting whereby operating expenditure for schemes is derived for a representative base year (2012-13) and escalated forward over each year of the regulatory period on the basis of predetermined escalation factors.

The 2012-13 year was adopted as the base year as it provides the best and most current representation of the costs required to deliver Seqwater's service standards and obligations during the regulatory period. Aggregate operating costs for 2012-13 (including costs associated with both grid and irrigation services but excluding costs associated with

unregulated activities) were derived as part of Seqwater's 2012-13 grid service charges submission to the QCA. Seqwater has developed its 2012-13 budget on the basis of a zero base build-up, taking into account costs which could be reasonably anticipated at the time of budget development. In addition, the 2012-13 operating expenditure forecasts provided in the grid service charges submission have been reviewed by the QCA for prudence and efficiency.

Further details on the forecasting methodology are provided in the Irrigation Pricing submission provided to the QCA.

The following escalators have been applied to 2012-13 operating costs to derive forecasts for the regulatory period:

- direct labour, materials and contractors' costs and repairs and maintenance were escalated at 4% per annum over the regulatory period; and
- 'other' direct costs and all non-direct costs were escalated at forecast CPI (2.5% per annum).

Details of the direct and non-direct operating expenditure forecasts for the Cedar Pocket scheme are provided below.

## **Direct operating and maintenance costs**

Direct costs are those costs that have been budgeted at the individual asset level.

### **Operations**

Operations relates to the day-to-day costs of delivering water and meeting compliance obligations. The primary activities relate to dam operations and group support (and catchment management).

Dam operations are the largest contributor to direct operating costs. Dam Operations aims to deliver best practice management of dams and water sources while being fully compliant and effective in operating, maintaining and monitoring its water source infrastructure.

Dam operations must meet the regulatory requirements under various Acts including those relating to Dam Safety, Flood Management, Resource Operating Plans, and providing sufficient water to meet standards of service.

Dam operations is relatively labour intensive and expenditure is driven by:

- providing efficient service to irrigation customers in terms of information and management and delivery of service;

- developing robust and acceptable systems to monitor water flows to manage water sources, floods and regulations;
- developing an effective and technically capable and resilient flood operations centre utilising systems of quality standards;
- improving data management to ensure compliance on a wide variety of water management areas;
- ensuring security and safety at our water sources is meeting regulatory and community standards; and
- developing system operating plans to ensure the efficiency and operation of dams, weirs, bores and other water sources.

Group support (and catchment management) has responsibility for the development and delivery of recreation and catchment maintenance services for all operational assets. The team ensures that asset management plans, processes, systems and practices are implemented in accordance with relevant regulatory requirements.

In particular, Seqwater has responsibility for the ongoing management and maintenance of recreation sites transferred from SunWater. While the use of Seqwater assets for recreational purposes is secondary to Seqwater's main function of water supply and treatment. However, recreation facilities must be managed in a sustainable and environmentally responsible manner to ensure that Seqwater's core responsibilities and accountabilities are not adversely impacted.

Direct operations costs are presented in terms of the type of cost: labour; contractors and materials; and "other".

- labour costs are derived on the basis of budgeted work in the scheme for 2012-13 and the related salary costs for routine activities. Consistent with the current Enterprise Bargaining Agreement for Seqwater and the recommendation of the QCA in its draft SunWater report, Seqwater has escalated internal labour costs at 4% per annum for the regulatory period 2013-14 to 2016-17;
- contractor and materials costs for 2012-13 are based on the quantities required in the work instructions for the scheme. As per the QCA's draft SunWater report, contractor and material costs have been escalated at 4% per annum for the regulatory period; and
- "other" direct operating costs incorporate a range of expenses including plant and fleet hire, water quality monitoring expenses and fixed energy costs. These costs have been escalated at forecast CPI for the regulatory period.

Forecast operations costs are provided below.

**Table 3-1. Forecast direct operations costs – Mary Valley (\$000)**

Cost	2013-14	2014-15	2015-16	2016-17
Labour	420.6	437.4	454.9	473.1
Contractors and materials	27.5	28.6	29.7	30.9
Other	220.4	225.9	231.6	237.4
<b>TOTAL</b>	<b>668.5</b>	<b>691.9</b>	<b>716.2</b>	<b>741.4</b>

**Table 3-2. Forecast direct operations costs – Pie Creek (\$000)**

Cost	2013-14	2014-15	2015-16	2016-17
Labour	22.7	23.6	24.5	25.5
Contractors and materials	7.6	7.9	8.3	8.6
Other	-	-	-	-
<b>TOTAL</b>	<b>30.3</b>	<b>31.5</b>	<b>32.8</b>	<b>34.1</b>

### Repairs and maintenance

Repairs and maintenance is performed at the scheme in accordance with Seqwater’s maintenance system. This system identifies the maintenance requirements for each asset, and then sets out a schedule for maintenance over the year(s) for that asset. In addition, maintenance requirements are developed through Facilities Asset Management Plans and as a result of scheduled inspections.

There is also unplanned maintenance which is required in response to asset breakdown or failure, or where new information emerges about asset condition (e.g. via regular inspections). Expenditure on unplanned maintenance for 2012-13 is derived based on past experience.

Seqwater have set a target ratio of 71:29 for planned maintenance to unplanned maintenance in 2012-13. This ratio has been applied for the forecast period.

Repairs and maintenance for 2012-13 has been escalated at 4% per annum over the regulatory period.

The table below presents a summary of forecast repairs and maintenance costs.

**Table 3-3. Forecast repairs and maintenance by expenditure type – Mary Valley (\$000)**

Type	2013-14	2014-15	2015-16	2016-17
Planned	153.9	160.1	166.5	173.1
Unplanned	62.9	65.4	68.0	70.7
<b>TOTAL</b>	<b>216.8</b>	<b>225.4</b>	<b>234.4</b>	<b>243.8</b>

**Table 3-4. Forecast repairs and maintenance by expenditure type – Pie Creek (\$000)**

Type	2013-14	2014-15	2015-16	2016-17
Planned	48.8	50.7	52.8	54.9
Unplanned	19.9	20.7	21.6	22.4
<b>TOTAL</b>	<b>68.7</b>	<b>71.5</b>	<b>74.3</b>	<b>77.3</b>

### Dam safety inspections

Routine dam safety inspections are carried out to identify and plan maintenance requirements and to provide information for management planning of water delivery assets. These costs are included in forecast operations expenditure.

In addition, more thorough periodic dam safety inspections are carried out on a 5 yearly basis. Costs associated with these inspections have been added to forecast direct operating expenditure in the year in which the expenditure is expected to be incurred. Forecast dam safety inspections expenditure is provided below.

**Table 3-5. Forecast dam safety inspections (\$000)**

Dam	2013-14	2014-15	2015-16	2016-17
Borumba			26.9	
<b>Total</b>	<b>-</b>	<b>-</b>	<b>26.9</b>	<b>-</b>

These inspections are based on the dam safety compliance requirements for the dams and the cost estimates are based on actual historic cost of inspection.

The table below presents a consolidated forecast maintenance costs for the Mary Valley and Pie Creek schemes.

**Table 3-6. Total repairs and maintenance forecast – Mary Valley (\$000)**

Type	2013-14	2014-15	2015-16	2016-17
Planned	153.9	160.1	166.5	173.1
Unplanned	62.9	65.4	68.0	70.7
Dam safety inspections	-	-	26.9	-
<b>TOTAL</b>	<b>216.8</b>	<b>225.4</b>	<b>261.4</b>	<b>243.8</b>

**Table 3-7. Total repairs and maintenance forecast – Pie Creek (\$000)**

Type	2013-14	2014-15	2015-16	2016-17
Planned	48.8	50.7	52.8	54.9
Unplanned	19.9	20.7	21.6	22.4
<b>TOTAL</b>	<b>68.7</b>	<b>71.5</b>	<b>74.3</b>	<b>77.3</b>

### **Metering**

Consistent with the Referral Notice to the QCA, capital expenditure (renewals) costs for meter upgrades to meet national metering standards have been excluded. Similarly, operating costs associated with complying with the new standards have not been included in the cost estimates.

### **Non-direct costs**

Non-direct costs are common costs which are not directly attributable to the operations and management of a specific scheme and include both indirect and overhead costs associated with the provision of corporate and other business services. In the absence of suitably disaggregated data at the project level, allocations of non-direct costs to renewals / capital expenditure were not examined. All non-direct costs were therefore allocated to operating expenditure only.

Non-direct costs for 2012-13 were derived at the aggregate level for all schemes and allocated to individual schemes based on the proportion of direct costs attributable to the individual scheme. These costs were then escalated forward to derive forecast non-direct costs for the regulatory period.

Non-direct costs are categorised by type of expenditure:

- Water delivery includes non-direct costs associated with dam operations, infrastructure maintenance, environmental management and recreation and catchment maintenance services;

- Asset delivery costs are associated with project planning and managing the delivery of projects;
- Corporate costs include business services, organisational development and the office of the CEO. These include costs associated with the provision of IT services, finance, procurement, legal and risk, governance and compliance activities; and
- Other costs primarily reflect costs associated with the North Quay facilities and flood control centres.

As discussed, the Logan River scheme was allocated a portion of 2012-13 total business non-direct costs on the basis of direct costs attributable to the scheme. This estimate was escalated by CPI to derive forecasts for each year of the regulatory period.

Forecast non-direct operating costs are provided below.

**Table 3-8. Forecast non-direct operating cost – Mary Valley (\$000)**

Type	2013-14	2014-15	2015-16	2016-17
Water Delivery	93.8	96.1	98.5	101.0
Asset Delivery	41.9	42.9	44.0	45.1
Corporate	335.1	343.5	352.1	360.9
Other	28.6	29.3	30.0	30.8
<b>TOTAL</b>	<b>499.3</b>	<b>511.8</b>	<b>524.6</b>	<b>537.7</b>

**Table 3-9. Forecast non-direct operating cost – Pie Creek (\$000)**

Type	2013-14	2014-15	2015-16	2016-17
Water Delivery	10.5	10.7	11.0	11.3
Asset Delivery	4.7	4.8	4.9	5.0
Corporate	37.4	38.3	39.2	40.2
Other	3.2	3.3	3.3	3.4
<b>TOTAL</b>	<b>55.7</b>	<b>57.1</b>	<b>58.5</b>	<b>59.9</b>

In addition to non-direct operating costs, Seqwater has allocated costs to the Warrill Valley scheme associated with the use of non-infrastructure assets, insurance and working capital.

### **Non-infrastructure assets**

The Mary Valley and Pie Creek schemes utilise a range of non-infrastructure assets (buildings and plant and equipment). These assets are not included in the renewals expenditure forecasts. However, it is necessary for costs associated with the use of these



assets to be attributed to the Schemes. Seqwater has used depreciation costs as a proxy for the cost associated with use of these assets. However, these depreciation costs are not captured at the scheme level. Accordingly, aggregate non-infrastructure depreciation for 2012-13 has been allocated to schemes on the basis of direct costs. The table below provides a breakdown of non-infrastructure asset costs allocated to the Mary Valley and Pie Creek schemes.

**Table 3-10. Non-infrastructure operating cost Forecast (\$000)**

Year	2013-14	2014-15	2015-16	2016-17
Mary Valley	41.7	42.8	43.8	44.9
Pie Creek	4.7	4.8	4.9	5.0

### Insurance

Seqwater’s annual insurance premium costs for 2012-13 is forecast at \$6.96 million. The major components to the premium include industrial special risks, machinery breakdown, public liability, professional indemnity, contract works and directors and officers insurance.<sup>1</sup>

Seqwater is in the process of placing insurances, and proposes to update this forecast once new premiums are set.

Seqwater has allocated its 2012-13 premium to the Mary Valley and Pie Creek schemes using the replacement value of scheme assets. This value has been escalated forward by CPI to determine a premium for each year of the forecast period. The table below shows the forecast premiums for the Mary Valley and Pie Creek schemes.

**Table 3-11. Insurance Cost Forecast (\$000)**

Year	2013-14	2014-15	2015-16	2016-17
Mary Valley	136.4	139.8	143.3	146.9
Pie Creek	11.3	11.6	11.9	12.2

### Working capital

The QCA has already adopted a methodology for calculating Seqwater’s working capital in Grid Service Charges. Seqwater has calculated the working capital allowance using this methodology and the values submitted to the QCA for 2012-13<sup>2</sup>, at \$5.538M.

<sup>1</sup> Seqwater also notes the QCA canvassed concerns raised by irrigators about the insurance costs attributable to irrigation services, and accepted SunWater’s proposed scope of insurances as reasonable (including professional indemnity). Refer to QCA (2011).pp 106-107

<sup>2</sup> Seqwater (2012). p146

Seqwater has allocated a portion of this working capital allowance to the Mary Valley and Pie Creek schemes on the basis of revenue attributable to the scheme. The 2012-13 working capital allowance has then been escalated by CPI to provide a forecast for each year of the regulatory period.

**Table 3-12. Working capital forecast (\$000)**

Year	2013-14	2014-15	2015-16	2016-17
Mary Valley	16.9	17.3	17.8	18.2
Pie Creek	1.7	1.7	1.7	1.8

Total operating costs for the forecast period are provided below.

**Table 3-13. Total operating cost forecast – Mary Valley (\$000)**

Cost	2013-14	2014-15	2015-16	2016-17
Direct				
Operations	668.5	691.9	716.2	741.4
Repairs and maintenance	216.8	225.4	234.4	243.8
Dam safety	-	-	26.9	-
Non-direct				
Operations	499.3	511.8	524.6	537.7
Non-infrastructure	41.7	42.8	43.8	44.9
Insurance	136.4	139.8	143.3	146.9
Working capital	16.9	17.3	17.8	18.2
<b>Total</b>	<b>1,579.6</b>	<b>1,629.1</b>	<b>1,707.1</b>	<b>1,733.0</b>

**Table 3-14. Total operating cost forecast – Pie Creek (\$000)**

Cost	2013-14	2014-15	2015-16	2016-17
Direct				
Operations	30.3	31.5	32.8	34.1
Repairs and maintenance	68.7	71.5	74.3	77.3
Non-direct				
Operations	55.7	57.1	58.5	59.9
Non-infrastructure	4.7	4.8	4.9	5.0
Insurance	11.3	11.6	11.9	12.2
Working capital	1.7	1.7	1.7	1.8
<b>Total</b>	<b>172.3</b>	<b>178.1</b>	<b>184.1</b>	<b>190.3</b>

## Revenue offsets

Seqwater receives revenue from other sources, including property leases, recreation fees and the provision of town water supplies. The estimated revenue from these sources for the Mary Valley scheme for the regulatory period is provided below. These forecasts are based on expected revenue received in 2012-13 escalated at CPI (2.5%) for the regulatory period.

**Table 3-15. Revenue offset (\$000)**

Year	2013-14	2014-15	2015-16	2016-17
Cost	13.9	14.2	14.6	14.9

To ensure that Seqwater is not overcompensated for the provision of services, this revenue has been removed from the estimate of scheme costs for the regulatory period.

## Renewals

The renewals outlays for the irrigation schemes consist of the same cost elements as their operating costs, namely direct labour, materials and contractors' services, other direct costs (such as rates and land taxes) and miscellaneous administrative costs and non-direct (indirect and overhead) costs.

Seqwater has adopted the same rates for escalation of renewals expenditure as for operating expenditure.

Accordingly, renewal expenditure has been escalated for direct labour, materials and contractors costs at 4% per annum for the years 2013-14 to 2016-17 and forecast inflation

thereafter for the remainder of the planning period. All other direct costs and non-direct costs are escalated at forecast inflation for both the regulatory period and the remainder of the planning period.

Inflation is forecast to increase at 2.5% per annum over the forecast period and beyond.

### **Renewals forecast**

Seqwater has proposed a rolling 20 year renewals annuity, consistent with the approach adopted for SunWater's irrigation pricing in the QCA's draft report.

Seqwater has defined renewals as non-maintenance expenditure that is required to maintain the service capacity of the assets.

Seqwater has based its renewals forecast on the more significant and predictable renewals expenditure items. Seqwater has not attempted to include minor renewals projects (less than \$10,000), or renewals on water treatment plants at recreation areas, or make any allowance or contingency for renewals expenditure arising from damage or changes in law. This approach has been adopted to focus the renewals forecasting effort on more material items of expenditure.

Seqwater identified renewals needs and the schedule of projects through a range of processes, including:

- the existing Facility Asset Management Plans (FAMPs);
- the existing asset maintenance program;
- reports from site safety inspections and dam safety management program; and
- advice from operators.

Seqwater then evaluated potential projects against criticality and other criteria, and conducted workshops with local staff as well as site inspections to validate and adjust the scope and timing of projects. In many cases, Seqwater has revised the timing of major renewals jobs to a later time where there was not sufficient evidence that the asset required renewal, or renewal of the asset could be deferred at an acceptable risk of failing to meet service standards or compliance obligations.

Forecast renewals expenditure for the regulatory period is provided below.

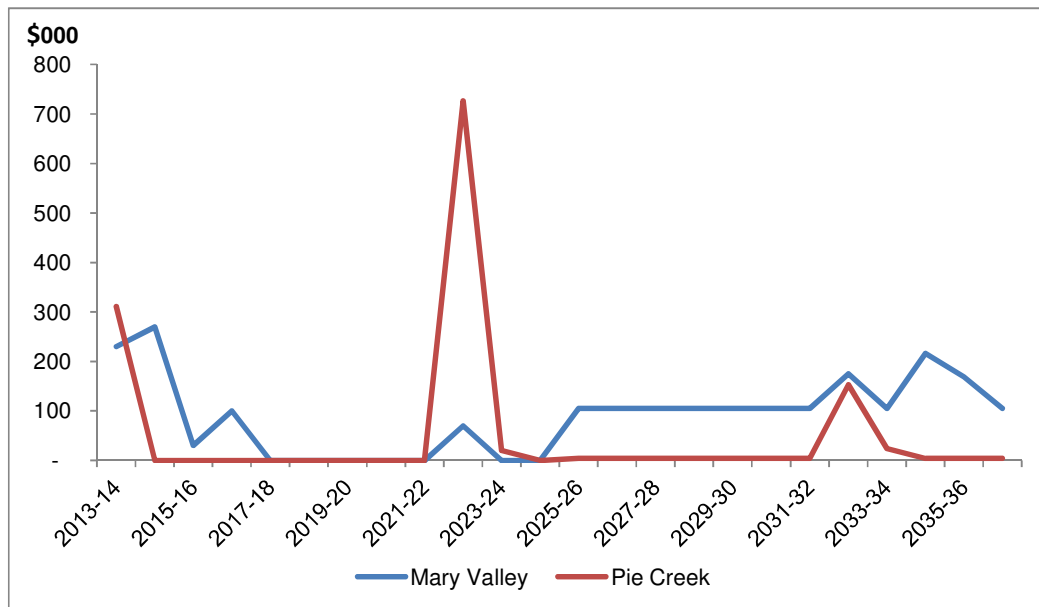
**Table 3-16. Forecast renewals expenditure to 2016-17 (\$2012-13, \$000)**

	2013-14	2014-15	2015-16	2016-17
Mary Valley	230.0	270.0	30.0	100.0
Pie Creek	311.0	-	-	-

This excludes any dam safety or meter upgrade expenditure, in accordance with the Referral Notice.

The figure below shows the long term renewals profile for Mary Valley and Pie Creek over a 24 year period.

**Figure 3-1: Mary Valley and Pie Creek renewals profile (\$2012-13)**



The major projects that have a material 10% impact on the annuity are described below:

**Table 3-17. Major renewals projects (Mary Valley and Pie Creek)**

Asset	Description of Work	Timing of Work	Project Value \$'000	Significance*
Borumba Dam - embankment	Sealing of concrete face joints below water surface	2013-14	230	HAV
Borumba Dam - chute	Concrete repairs	2014-15	100	HAV
Borumba Dam – cone valves	Painting and replacement of seals	2016-17	100	HAV

### Total Lower Bound Costs

The total lower bound costs for the Mary Valley and Pie Creek schemes are set out in the table below.

**Table 3-18. Total Lower Bound costs – Mary Valley (\$000)**

Cost	2013-14	2014-15	2015-16	2016-17
Direct operations*	654.6	677.7	728.6	726.5
Repairs and maintenance	216.8	225.4	234.4	243.8
Non-direct opex**	694.4	711.7	729.5	747.8
Renewals annuity	650.5	654.4	662.5	669.1
<b>TOTAL</b>	<b>2,216.3</b>	<b>2,269.3</b>	<b>2,355.0</b>	<b>2,387.1</b>

\* Incorporates revenue offset \*\* Incorporates operations, non-infrastructure costs, insurance and working capital.

**Table 3-19. Total Lower Bound costs – Pie Creek (\$000)**

Cost	2013-14	2014-15	2015-16	2016-17
Direct operations	30.3	31.5	32.8	34.1
Repairs and maintenance	68.7	71.5	74.3	77.3
Non-direct opex*	73.3	75.1	77.0	78.9
Renewals annuity	45.3	46.2	46.4	46.5
<b>TOTAL</b>	<b>217.6</b>	<b>224.3</b>	<b>230.4</b>	<b>236.8</b>

\* Incorporates operations, non-infrastructure costs, insurance and working capital.

Lower bound costs for the Mary Valley and Pie Creek schemes were not separately identified in the previous 2006 SunWater Irrigation Price Review.

### Cost allocation to irrigation

Seqwater proposes that renewals and maintenance costs are allocated to irrigation using the Headworks Utilisation Factor (HUF). Seqwater commissioned Parsons Brinckerhoff (PB) to calculate the HUF percentage for the scheme, using the methodology endorsed by the QCA for irrigation pricing in SunWater schemes.

PB calculated a HUF for Mary Valley medium priority customers of 26%.

The balance of costs have been allocated to the Mary Valley irrigation sector based on a 50:50 split between the HUF (26%) and the nominal ML entitlements attributable to medium priority customers (68%).

There is only medium priority WAE in the Pie Creek tariff group, and hence no need to assign costs between priority groups in this segment. However, Pie Creek must still be allocated its share of renewals costs for Mary Valley water storages (Borumba Dam, Imbil Weir).

Seqwater did not commission a HUF assessment because the features of WAE in that scheme were still under review by DERM. Accordingly, all scheme costs are allocated to medium priority customers.

The table below presents the outcomes of this sector cost allocation.

**Table 3-20. Total Lower Bound costs allocated to Mary Valley irrigation sector (\$000)**

Cost	2013-14	2014-15	2015-16	2016-17
Direct operations*	314.3	325.4	349.8	348.8
Repairs and maintenance	60.7	63.1	65.6	68.3
Non-direct opex**	306.1	313.8	321.6	329.7
Renewals annuity	182.1	183.2	185.5	187.3
Distribution losses	-	-	-	-
<b>TOTAL</b>	<b>863.2</b>	<b>885.5</b>	<b>922.5</b>	<b>934.0</b>

\* Incorporates revenue offset \*\* Incorporates operations, non-infrastructure costs, insurance and working capital.

**Table 3-21. Total Lower Bound costs allocated to Pie Creek irrigation sector (\$000)**

Cost	2013-14	2014-15	2015-16	2016-17
Direct operations	30.3	31.5	32.8	34.1
Repairs and maintenance	68.7	71.5	74.3	77.3
Non-direct opex*	73.3	75.1	77.0	78.9
Renewals annuity	45.3	46.2	46.4	46.5
Distribution losses	7.9	8.1	8.3	8.5
<b>TOTAL</b>	<b>225.6</b>	<b>232.4</b>	<b>238.8</b>	<b>245.3</b>

\* Incorporates operations, non-infrastructure costs, insurance and working capital.

## Proposed tariffs

### Tariff groups

The Referral Notice requires the QCA to adopt the tariff groups as proposed in Seqwater’s NSPs.

Seqwater proposes the current tariff groupings continue for the Scheme. That is, a single tariff group will continue to apply.

### Tariff structure

As discussed, Seqwater considers that all costs associated with the provision of irrigation services are fixed. Accordingly, Seqwater proposes to apply a single fixed tariff to Mary Valley and Pie Creek irrigation customers.

### Lower bound reference tariffs

The Pie Creek section of the Mary Valley WSS is a discrete, additional part of the scheme. The creek itself is supplemented by diversions from the Mary River. The Pie Creek scheme is integrated within the Mary Valley WSS. For example, the water sharing rules are common for Pie Creek and other Mary Valley WSS customers. However, customers outside Pie Creek receive no benefit from the Pie Creek supply infrastructure, which involves no storage assets. That is without the Pie Creek part of the scheme, other customers would be no worse off.

The pricing practices to date under prior SunWater ownership have been to attribute the costs of Pie Creek solely to Pie Creek users, and in addition to their share of the remaining Mary Valley WSS costs (i.e. Borumba Dam and Imbil Weir).

Seqwater proposes to continue the past practice, and has calculated prices accordingly.

Lower bound reference tariffs for Mary Valley and Pie Creek irrigation customers are provided below.

**Table 3-22. Forecast Mary Valley irrigation tariffs**

	2013-14	2014-15	2015-16	2016-17
Lower bound cost (\$000)	863.2	885.5	922.5	934.0
WAE (ML)	21,829	21,829	21,829	21,829
Tariff (smoothed)				
Fixed component (\$/ML)	39.76	40.75	41.77	42.82
Variable component (\$/ML)	-	-	-	-



**Table 3-23. Forecast Pie Creek irrigation tariffs**

	2013-14	2014-15	2015-16	2016-17
Lower bound cost (\$000)*	225.6	232.4	238.8	245.3
WAE (ML)	835	835	835	835
Tariff (smoothed)				
Fixed component (\$/ML)*	311.34	319.13	327.11	335.28
Variable component (\$/ML)	-	-	-	-

\*Pie Creek costs only (i.e. excludes costs associated with Mary Valley). \*\*Reflects both the use of individual Pie Creek assets and assets in the Mary Valley scheme (i.e. Pie Creek tariff *plus* Mary Valley tariff).

### Price Path

The Referral Notice requires the QCA to consider a price path where potential price increases are above inflation.

### Supporting documentation

- Irrigation Infrastructure Renewal Projections - 2013/14 to 2046/47 – Mary River Tariff Group
- Irrigation Infrastructure Renewal Projections - 2013/14 to 2046/47 – Pie Creek Tariff Group

## Appendix A – Asset details

**S1.1 BORUMBA DAM - YABBA CREEK - AMTD 31.1 km**

ITEM	DESCRIPTION
1. Description of water infrastructure:	Dam (Concrete Faced Rockfill).
2. Storage Capacities:	
a) Total storage capacity	46,000 ML.
b) Commandable storage capacity	44,800 ML.
c) Dead Storage capacity	1,200 ML [A volume of 1,200 ML was adopted in hydrologic modelling. The volume below the level of the outlet works (EL 111.47 m AHD) is 510 ML.]
3. Physical Dimensions (Main Structure):	
a) Full supply level	EL 135.01m AHD. (Stage 2 structure)
4. Outlet Works/Spillway Arrangement/Diversion Works:	
a) Description of works	<p><u>Spillway</u> Consists of reinforced concrete crest and chute with reinforced concrete walls.</p> <p><u>Outlet Works</u> Single 1219mm inlet pipe dividing into two 1066 mm outlet pipes with butterfly control valves, which reduce to 762 mm discharge valves housed in a reinforced concrete outlet structure.</p>
b) Levels	<p>Top of spillway is EL 135.01m AHD. The invert level of the outlet regulators is EL 103.72m AHD.</p>
5. Inlet Works:	
a) Multi level offtakes	Single 1.22m inlet pipe with bellmouth situated at base of concrete inlet tower with bulkhead gate as control. Operated by a 3 ton hand winch and fitted with trash racks.
b) Levels	<p>The invert of the pipe is EL 104.78m AHD. Top of trash rack assembly EL 120.02m AHD. Sill of inlet is 111.47 m AHD</p>
6. Pass flows:	
a) Environmental provisions	No releases made specifically for environmental requirements.
b) Volume of first flush currently required to be passed through structure	No releases required.
c) Riparian/stock and domestic flows	No releases made solely for stock and domestic purposes.
d) Other compensation flows (eg. for underground water resources)	No releases made.
e) Flow variations	<p>Minimum Monthly Release: 0ML. Average Monthly Release: 2661ML. Maximum Monthly Release: 1142ML.</p>
f) Maximum Release Rates, actual as agreed for Resource Protection	Dam safety considerations limit maximum allowable release rate to 500 ML/day. No resource protection requirements apply.

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ITEM	DESCRIPTION
<p>7. Operational constraints:</p> <p>a) Minimum operating level/capacity</p> <p>b) Operation of fabridams</p> <p>c) Operation of gates</p> <p>d) Flood Mitigation</p>	<p>111.47 m AHD. 510 ML. (Sill of inlet) Mary River Advisory Committee has agreed to a minimum draw down capacity of 2,000 ML for environmental purposes. (Verbal agreement)</p> <p>Borumba Dam is not equipped with fabridam.</p> <p>Borumba Dam is not equipped with gates.</p> <p>The storage is not operated as a flood mitigation structure, however peak discharges downstream of the storage are decreased in magnitude through the temporary flood storage effect of the structure.</p>
<p>8. Management of storage water levels and quality:</p> <p>a) Water Quality Management, eg: Algal Management, multi-level offtakes including release strategies</p> <p>b) Minimum operating level for protection of fauna</p> <p>c) Storage fringe margin management</p>	<p>Single level offtake. Actions as outlined in Appendix 4 of the Licensee’s Blue Green Algal Monitoring Manual.</p> <p>1,200 ML. Mary River Advisory Committee has agreed to a minimum draw down capacity of 2,000 ML for environmental purposes. (Verbal agreement) The volume corresponding to 2.5 metres depth of water is 19 ML. Although not agreed, this depth of water has been discussed as an absolute minimum volume for the protection of fauna.</p> <p>The Licensee owns the flood margin, which is leased back to adjacent landholders who are responsible for the control of vermin and noxious weeds. There is currently no riparian management plan for this storage.</p>
<p>9. Operation of Fish Transfer Systems:</p>	<p>No fish transfer systems at Borumba Dam.</p>

**S1.2 IMBIL WEIR - YABBA CREEK - AMTD 10.9 km**

ITEM	DESCRIPTION
1. Description of water infrastructure:	Weir (Regulator).
2. Storage Capacities:	
a) Total storage capacity	46 ML.
b) Commandable storage capacity	41 ML.
c) Dead Storage capacity	5 ML.
3. Physical Dimensions (Main Structure):	
a) Full supply level	EL 77.17m. AHD.
4. Outlet Works/Spillway Arrangement/Diversion Works:	
a) Description of works	No separate spillway. Outlet works consist of: two 0.91m x 1.37m openings controlled by 102mm x 91mm hardwood dropboards.
b) Levels	EL 76.26m AHD is the sill of the hardwood dropboard control section of the weir.
5. Inlet Works:	
a) Multi level offtakes	See 4 a) for description of works.
b) Levels	EL 76.26m AHD is the sill of the dropboard control section of the weir.
6. Pass flows:	
a) Environmental provisions	No releases made specifically for environmental requirements.
b) Volume of first flush currently required to be passed through structure	No releases required.
c) Riparian/stock and domestic flows	No flows released solely for stock and domestic.
d) Other compensation flows (eg. for underground water resources)	Nil.
e) Flow variations	In the normal operation of this weir water is passed over the spillway. No records of releases are kept for this weir.
f) Maximum Release Rates, actual as agreed for Resource Protection	No actual as agreed maximum release rates in place.
7. Operational constraints:	
a) Minimum operating level/capacity	EL 76.26 m AHD is level at which creek will cease to flow over weir with dropboards removed. Capacity 5 ML However dropboards are not removed for stream regulation so effective minimum operating level is EL 77.17m AHD. Capacity 46 ML.
b) Operation of fabridams	Imbil Weir is not equipped with a fabridam.
c) Operation of gates	Imbil Weir is not equipped with gates
d) Flood Mitigation	No provision exists.

2013 – 2017 IRRIGATION PRICING SUBMISSION TO QCA

ITEM	DESCRIPTION
8. Management of storage water levels and quality: <ul style="list-style-type: none"> <li data-bbox="321 407 669 478">a) Water Quality Management, eg: Algal Management, multi-level offtakes including release strategies</li> <li data-bbox="321 501 669 548">b) Minimum operating level for protection of fauna</li> <li data-bbox="321 571 669 596">c) Storage fringe margin management</li> </ul>	No offtake. Actions as outlined in Appendix 4 of the Licensee's Blue Green Algal Monitoring Manual.  5 ML  No management provisions in place.
9. Operation of Fish Transfer Systems:	No fish transfer systems at Imbil weir.

## **Appendix B – Customer service standards**



## Water Supply Arrangements and Service Targets

### **MARY RIVER WATER SUPPLY SCHEME**

#### **UPPER MARY (PIE CREEK – CEDAR POCKET DAM – MARY RIVER)**

#### **Water Supply Arrangements**

*This is referred to as Seqwater Distribution Rules in the Channel/Pipeline contract; and Seqwater Rules in the River/Groundwater contract*

To manage the water delivery to our customers, arrangements for the taking of water in the Scheme have been discussed with the Irrigator Advisory Committee and are outlined below. These arrangements are aimed at achieving the efficient delivery of water to customers in the Scheme that best meets their needs.

#### **Pie Creek**

##### ***Taking Water from the Scheme***

In the Mary River Water Supply Scheme (Pie Creek), customers must place water orders by using the telephone ordering system. In order to best manage water demand, customers are required to order at least 48 hours in advance and to draw water on a continuous 24 hour basis.

To place an order, customers are required to phone the following numbers:

5484 5106 or Mobile 0409 059 229

**Note: All water orders must be received by 6.00am, any orders/changes advised after this time will be registered the following day.**

The automated ordering systems have a pre-set travel time for the period of time it takes for water to move along the Mary River depending on the location of the customer's offtake.

Water must be taken in accordance with the order and must not exceed the ordered volume. The water ordering system assists Seqwater to delivery water to customers in an efficient and timely way, and enables customers to plan and manage their water use. Customers who take without ordering may reduce Seqwater's ability to supply customers who have ordered according to the above requirements.

Furthermore, customers who order water and fail to take it increase the system's distribution losses, which could result in Seqwater having to limit supplies to all customers later in the water year.

Distribution of water during times of peak demand, roster periods or restrictions may be required in accordance with the Access conditions.





## Water Supply Arrangements and Service Targets

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### ***Access Conditions (Working Supply Rates/Roster)***

*This is referred to as Access Conditions in the Channel/Pipeline contract*

Working Supply Flow Rates have been determined for each outlet. Adherence to Working Supply Flow Rates and rosters means that all customers can access supplies in a managed way that is consistent with the design principle of the scheme. However, Working Supply Flow Rates and associated rosters cannot provide continuous access to supplies.

All customers must adhere to Working Supply Flow Rates to share channel capacity during periods when demand for water exceeds the system's capacity to deliver. The duty Operations Officer will inform customers verbally if and when restrictions apply. During this period, compliance with rosters and Working supply Flow Rates is required

Failure to adhere to a Working supply Flow Rate and roster impacts on other customers and is in breach of your contract.

Working Supply Flow Rates and associated rosters have been determined for each outlet and distributed to customers. If you do not have a record of your Working supply Flow Rate or the Roster please contact the Seqwater Regional Office in Karalee.

### ***Supply Rate Control***

On-farm flow rate must not be regulated through the use of Seqwater's gate-valve installed upstream of the meter. For on farm flow regulation customers must install an approved valve downstream of the meter outlet.

Customers must ensure that the flow rate at which water is taken, remains within the meter's operating range. Taking of water at flow rates above or below the meter's operating range is not permitted. If a meter installation is no longer suitable for your irrigation practices, please discuss replacing the installation with the Dam Supervisor.

### ***Rain Shutdown***

Customers must notify the duty Operations Officer as soon as possible of any rain event that substantially lessens their water requirements.

To conserve water, the duty Operations Officer may shutdown the system when there is widespread general rain.



## Water Supply Arrangements and Service Targets

### Cedar Pocket Dam

#### *Taking Water from the Scheme*

In the Mary River Water supply Scheme (Cedar Pocket Dam), customers must place water orders using the telephone ordering system. In order to best manage water demand, customers are required to order 48 hours in advance and to draw water on a continuous 24 hour basis. To place an order, customers are required to phone the following numbers:

5484 5106 or Mobile 0409 639 312

**Note:** All water orders must be received by 6.00am, any orders/changes advised after this time will be registered the following day.

The automated ordering systems have a pre-set travel time for the period of time it takes for water to move along the Mary River depending on the location of the customer's offtake.

Water must be taken in accordance with the order and must not exceed the ordered volume. The water ordering system assists Seqwater to delivery water to customers in an efficient and timely way, and enables customers to plan and manage their water use. Customers who take without ordering may reduce Seqwater's ability to supply customers who have ordered according to the above requirements.

Furthermore, customers who order water and fail to take it increase the system's distribution losses, which could result in Seqwater having to limit supplies to all customers later in the water year.

Distribution of water during times of peak demand, roster periods or restrictions may be required in accordance with the Access Conditions.

#### **Access to Storage**

Storage is currently operated in the following nominal operating range:

Cedar Pocket Dam – 7.7 metres below Full Supply Level (FSL)

This range may change in the future if required; for example, under Seqwater's interim Resource Operations Licence (IROL) and for other licence changes. Customers will be informed if such a change occurs.

Customers should note that they are responsible for locating and maintaining pumps to take water.

#### **Changes to Customer's Pumping Arrangements**

Customers must obtain approval from both Seqwater and the Department of Environment and Resource Management or any other approvals necessary, before proceeding with any changes to their pumps, including changing size/capacity of the pump. Customers are advised to contact Seqwater to clarify any requirements before lodging applications to the Department of environment and Resource Management.



## Water Supply Arrangements and Service Targets

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### ***Rain Shutdown***

To conserve water, the duty Operations Officer may shutdown the system when there is widespread general rain.

### **Mary River**

#### ***Taking Water from the Scheme***

In the Upper Mary River Water Supply Scheme customers must place water orders using the telephone ordering system. In order to best manage water demand, customers are required to order 48 hours in advance and to draw water on a continuous 24 hour basis.

To place an order, customers are required to phone the following numbers:

5484 5106 or Mobile 0409 059 229

***Note: All water orders must be received by 6.00am, any orders/changes advised after this time will be registered the following day.***

The automated ordering systems have a pre-set travel time for the period of time it takes for water to move along the Mary River depending on the location of the customer's offtake.

Water must be taken in accordance with the order and must not exceed the ordered volume. The water ordering system assists Seqwater to deliver water to customers in an efficient and timely way, and enables customers to plan and manage their water use. Customers who take without ordering may reduce Seqwater's ability to supply customers who have ordered according to the above requirements.

Furthermore, customers who order water and fail to take it increase the system's distribution losses, which could result in Seqwater having to limit supplies to all customers later in the water year.

Distribution of water during times of peak demand, roster period or restrictions may be required in accordance with the Access Conditions.

#### ***Water Harvesting***

Water harvesting is announced and charged for the Department of Environment and Resource Management. Any enquiries with regard to water harvesting should be directed to your local office of the Department of environment and Resource management. Department of Environment and Resource Management will inform Seqwater of readings to that Seqwater can record this use as water harvesting.

If no meter readings are received from Department of Environment and Resource Management then all water taken will be treated as Announced Allocation.



## Water Supply Arrangements and Service Targets

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### ***Changes to Customers' Pumping Arrangements***

Customers must obtain approval from both Seqwater and the Department of Environment and Resource Management or any other approvals necessary before proceeding with any changes to their pumps, including changing size/capacity of the pump. Customers are advised to contact Seqwater to clarify any requirements before lodging applications to the Department of Environment and Resource Management.

### **Pie Creek – Cedar Pocket – Mary River (Upper Mary)**

#### ***Changes to the volume or location for taking water***

##### **Channel**

Customers wishing to:

- Nominate a different location for taking water in the channel system (including a temporary transfer or combining two or more delivery points); or
- Transfer water outside the channel system to another location on the river

##### **River**

Customers wishing to:

- Have multiple delivery points; or
- Transfer water to another customer

Must first obtain Seqwater's approval. For their own benefit, customers should obtain Seqwater's approval before finalising any dealings with another party (eg a temporary transfer).

Seqwater may require operational and other issues to be resolved before granting its approval. These will be discussed with customers during the application and approval process.

Application forms are available from the Seqwater Regional Office in Karalee.

#### ***Stopping or restricting supply***

Seqwater may suspend or restrict supply in a number of circumstances, including:

- during maintenance of Seqwater's assets;
- if supply could cause Seqwater to break the law;
- during a peak demand period, when rosters or rations may apply;



## Water Supply Arrangements and Service Targets

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- when the demand for water is so small it is impractical to supply it;
  - infrastructure limitations which make delivery impractical;
  - When there is a need to make special releases to maximise efficiency at times of limited supply;
- or
- during rain shutdown.

In the event that Seqwater restricts or suspends supplies, customers should make arrangements for on farm water storage to provide their on going water requirements during interruptions.

### ***Credit Water***

Credit Water enables customers to take streamflows that are below water harvesting thresholds, but would otherwise not contribute to storage in the scheme. Seqwater is able to provide this product to its customers in lieu of announced allocation under certain circumstances.

During defined streamflow and other circumstances, Seqwater may announce that Credit Water is available in the scheme or to a defined part of the scheme. Customers wishing to take credit water must telephone, email or fax to Seqwater their start meter readings so the water taken can be recorded as credit water.

At the end of the Credit Water event, Seqwater will announce via local radio and/or newspaper that Credit Water has ended. Customers must telephone, email or fax their end meter readings within two business days of this announcement.

### ***Water charges***

Water taken as credit water attracts the normal consumption charge. There are no other charges associated with credit water.

### ***Maximum volume taken as Credit Water***

Customers' combined water use as credit water and allocation water cannot exceed the customers' total nominal water allocation amount.

Customers are responsible for monitoring their water use under both Credit Water and allocation water against their interim water allocation amount.

Customers can obtain specific information on the use of Credit Water by contacting the Karalee Regional Office.

## **General**



## Water Supply Arrangements and Service Targets

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### ***Complaints and Dispute Resolution***

Seqwater's aim is to resolve problems and complaints quickly and effectively. Where a customer has a concern that is not able to be resolved, customers can choose to initiate a formal dispute resolution process by writing to the **Regional Manager**.

If through discussions, resolution cannot be reached either party may request the commencement of negotiations in good faith on a dispute resolution procedure, other than litigation or arbitration. If agreement is reached to proceed to the next phase, independent mediation services of the Disputes Resolution Centres of Queensland can be used.

### ***Billing Arrangements***

Invoices are sent quarterly with the exception of minimum charge invoices, which are sent annually and all invoices must be paid within 30 days. **Payments are allocated to the customer's oldest debt first**, unless an invoice is in dispute.

### ***Notices***

Correspondence should be sent to the Karalee Regional Office as detailed below:

Seqwater

**P O Box 2437**

**North Ipswich Qld 4305**

**Facsimile: 3884 5312**

**Email:**

### ***Communication – Contact Arrangements***

The Karalee Regional Office has staff available for enquiries and business transactions (water supply, billing, temporary transfers, etc) Monday to Friday – Phone: 1800 077 005 or 3432 7001.

It is of great assistance if customers can provide an offtake number when reporting supply problems. Offtake numbers are recorded on quarterly water statements and or may be located on metal tags physically attached to meter installations.

In the event of an emergency or to report a fault, the duty Water Officer can be contacted by phoning 5484 5106 or Mobile 0409 059 229.

Further information about Seqwater can be obtained from our website:

[www.seqwater.com.au](http://www.seqwater.com.au)

## **SERVICE TARGETS**





## Water Supply Arrangements and Service Targets

As described under clause 3 of the standard contract:

We are committed to publishing service targets and to reporting to customers on our performance against the targets. Following discussion and consultation with **the Irrigator Advisory Committee**, this document contains service targets that have been set for the Mary River Water supply Scheme – Upper Mary (Pie Creek – Cedar Pocket Dam – Mary River).

### Planned Shutdowns

Planned shutdowns have been included as a target and Seqwater recognises that the following are important service issues for you:

- *That you will be notified about a shutdown so that you can plan ahead;*
- *The timing of the shutdown should suit most customers;*
- *The duration of the shutdown should minimise the impact on customers, while enabling Seqwater to perform maintenance on the scheme.*

*Definition: A Planned shutdowns occurs when a customer’s supply is interrupted or restricted due to the performance of work that is planned in advance.*

#### Planned Shutdowns - Timing

Delivery Service Type	Scheme Target
Channel & River	The timing of all planned shutdowns will be set following consultation with the <b>Irrigator Advisory Committee</b> (for a shutdown affecting a large part of the scheme) or customer groups or individuals (for shutdowns effecting small areas).

#### Planned Shutdowns – Duration

Delivery Service Type	Scheme Target
Channel & River	Seqwater will complete all planned shutdowns within the period notified to customers (unless later varied by agreement with the groups originally consulted with), unless something occurs that is beyond Seqwater’s control, such as adverse weather conditions.

#### Planned Shutdowns – Notice



### Water Supply Arrangements and Service Targets

Delivery Service Type	Scheme Target
Channel & River	<p>For shutdowns planned to exceed 2 weeks, at 8 weeks written notice by letter will be provided to each customer affected by the annual shutdown.</p> <p>For shutdowns planned to exceed 3 days, at least 2 weeks written notice by letter, fax, telephone, or verbal advice will be provided to each customer affected by the shutdown.</p> <p>For shutdowns planned to be less than 3 days, at least 5 days notice will be provided at least verbally to each customer affected.</p> <p>Each notice will state the start date, and anticipated shutdown duration.</p> <p>A courtesy reminder will be placed in the local newspaper one week before the planned shutdowns commence.</p>

#### Unplanned Shutdown

*Unplanned shutdowns have been included as a target and Seqwater recognises that the information provided to you about an interruption and the period of time taken to resume supply are important to you.*

*Definition: An Unplanned Shutdown is an unforeseen or not planned mechanical or operational failure of Seqwater’s water delivery infrastructure that stops or restricts the supply of water to a customer for more than 2 hours (including emergency repairs). It does not include events that are beyond Seqwater’s control (eg. power failure or storm) and does not include interruptions to supply caused by errors in estimating water demand and releases, or people taking water without authorisation.*

#### Unplanned Shutdown – Duration

Delivery Service Type	Service Target
Channel & River	<p>Unplanned Shutdowns will be fixed so that at least partial supply can be resumed to those customers requiring water within:</p> <ul style="list-style-type: none"> <li>• 48 hours of Seqwater being notified of the event.</li> </ul> <p>Some events may interrupt supply greater than the above standard and are excluded from these targets. Seqwater will publish these events from time to time.</p>

#### Unplanned Shutdown – Notice





### Water Supply Arrangements and Service Targets

Delivery Service Type	Scheme Target
Channel & River	Seqwater will notify all affected customers requiring water verbally or by telephone, radio announcement or fax of the likely duration of the interruption to supply within 24 hours of learning of the event, or by the end of the first business day following the event, whichever is the earlier.

#### Unplanned Shutdown – Meter Repairs

Delivery Service Type	Scheme Target
Channel & River	Faults causing restrictions to supply will be repaired within one working day of Seqwater being notified.

### ***Total frequency of interruption to supply***

#### Frequency of interruptions to supply

Delivery Service Type	Scheme Target
River	No customer will experience more than six planned or unplanned interruptions per water year (as defined above).

<sup>2</sup> This includes other events described as Events of Force Majeure in your contract.

#### **Complaints**

Seqwater will provide an initial response to all complaints within five working days of receiving a complaint by the customer:

- in writing; or
- by telephone to a Business Centre

Seqwater will either resolve a customer's complain, or provide a written response providing reasons why the complaint has not or cannot be resolved within 21 days of receiving the complaint.



## Water Supply Arrangements and Service Targets

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### *Customer Obligations*

The Customer principal obligations are set out in clause 4 of the Standard Contract.

### *Warning to Customers*

In particular Customers should note that a customer must not take more than the customer's Maximum Delivery Volume as allowed by the Customer's Standard Contract without first obtaining Seqwater's approval. If a Customer exceeds the Customer's Maximum Delivery Volume, the Customer may also be in contravention of the Water Act 2000. Seqwater may direct the Customer not to take any water. Depending on the circumstances of the breach, the Customer is not automatically entitled to forward draw on the following year's water entitlements, if any, and is therefore not entitled to take water until Seqwater is satisfied that the breach has been remedied.