



Our Ref:  
Enquiries:  
Email:

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Mr Lyndon Rowe  
Chairman  
Economic Regulation Authority  
PO Box 8469  
PERTH BC WA 6849

**INQUIRY INTO THE EFFICIENT COSTS AND TARIFFS OF THE WATER  
CORPORATION, AQWEST AND THE BUSSELTON WATER BOARD**

**RESPONSE TO THE ISSUES PAPER**

Dear Lyndon

Please find attached Harvey Water's response to the issues paper for the *Inquiry into the Efficient Costs and Tariffs of the Water Corporation, Aqwest and the Busselton Water Board*.

This response can be treated as a public submission and can be published accordingly.

Please contact Harvey Water if you would like more information.

Yours sincerely

Geoff Calder  
GENERAL MANAGER

# **Inquiry into the Efficient Costs and Tariffs of the Water Corporation, Aqwest and the Busselton Water Board**

## **Harvey Water's Response to the Issues paper**

This submission is Harvey Water's response to the Issues Paper for the Economic Regulation Authority's (ERA's) *Inquiry into the Efficient Costs and Tariffs of the Water Corporation, Aqwest and the Busselton Water Board*.

Our response is in particular related to the ERA's review of the level and structure of water storage and dam safety charges to the South West Irrigation Management Co-operative (Harvey Water). We would welcome the opportunity to meet with the ERA to discuss the issues contained in this paper in more detail prior to the development of the Draft Report.

### **Background**

In June 2007 the Economic Regulation Authority (ERA) completed an inquiry into the level and structure of water storage and dam safety charges between the Water Corporation and Harvey Water, as outlined in the 1996 Bulk Water Supply Agreement (BWSA) between the parties. That BWSA expired in 2006 but by agreement between the parties remains current.

As noted in the Issues Paper, most of the water storage charges paid by Harvey Water to the Water Corporation under the BWSA relate to capital expenditure by the Water Corporation on the dams.

In its Final Decision in 2007, the ERA:

- concluded that most of the Water Corporation's proposed capital expenditure was justified under the Australian National Committee on Large Dams (ANCOLD) Guidelines, but the proposed expenditure on Logue Brook Dam and Stage Two of the (already completed) works on Waroona Dam were not justified under the ANCOLD Guidelines. The ERA allowed the Corporation to pass on the costs of complying with the ANCOLD framework, but indicated that charges should be phased-in over ten years;
- reduced the total costs that would be charged to Harvey Water by the estimated value of the recreational benefits associated with these dams;
- accepted the Corporation's proposed operating expenditure subject to estimates but modified the overhead rate.

The ERA recommended specific bulk water charges based on the information available at the time. At the time those charges were developed, the full effects of reduced water supply due to climate change (expressed as reduced water allocations) was not well understood. As the bulk water charges are fixed, the effective cost per megalitre increases substantially as the allocation decreases. Water allocations have recently been in the order of 35%-45% of full entitlements, implying impacts two to three times greater than forecast in the ERA's original modelling. The lower allocations imply that water is not only less affordable to use, but also less affordable to own, as irrigators must pay the fixed fees regardless of usage.

The challenges are compounded in the Collie River Irrigation District (CRID), where irrigators face not only lower allocations, but also poor water quality, which makes the productive and profitable use of irrigation water much more difficult than the Harvey and Waroona districts.

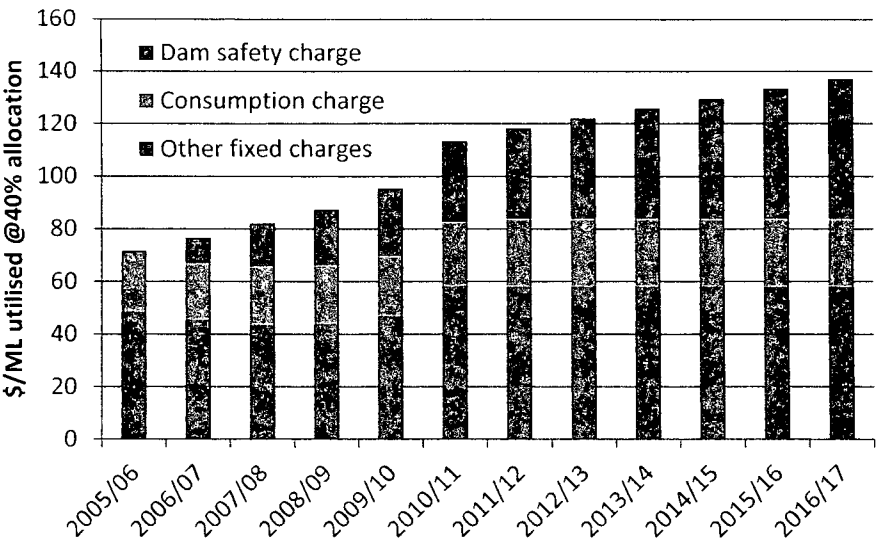
As part of the previous review, the ERA considered the impact of increased charges on irrigators. A review of the impact on irrigators is critical when determining appropriate cost sharing

arrangements, not only for equity reasons, but also because increased charges may cause otherwise profitable businesses to fail and lead to potentially inefficient outcomes. Importantly, the allocation of dam safety costs to irrigators is *not an issue of economic efficiency* as the dam safety expenditure has either occurred or will be unavoidable in the future. No variation in demand from Harvey Water will alter the historic dam safety expenditure and therefore dam safety charges (particularly fixed charges) will not provide any efficiency incentive through pricing signals.

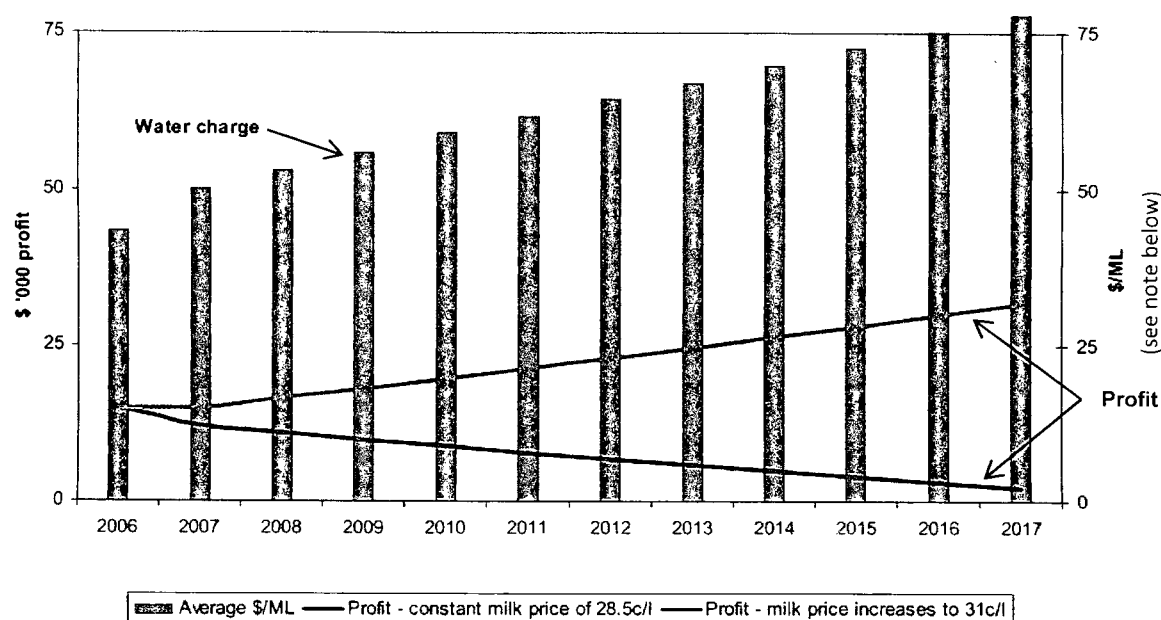
Furthermore, as charges are fixed, any reductions in water use or availability will increase the cost per megalitre used, reducing affordability further and potentially leading to an upward cycle of price pressure.

Based on an allocation of 40%, Figure 1 demonstrates the historic and forecast cost per megalitre of water used. The diagram demonstrates that dam safety charges will represent around 40% of Harvey Water’s total charge to customers by 2017.

**Figure 1: Harvey Water charges per megalitre of water utilised (at 40% allocation)**



The review undertaken by the ERA in 2007 focussed on dairy farms as the primary water users. The Final Report concluded that dairy farms would remain profitable, but might see a decrease in profitability if milk prices remained the same. However, the ERA also examined a scenario in which milk prices, and consequently farm profits, increased. The ERA’s analysis appeared to conclude that an average dairy farm would remain profitable even after the application of increased dam safety charges (Figure 1).

**Figure 1: Impact of water charges on dairy net profit per farm**

Source: ERA (2007), *Revised Final Report Inquiry on Harvey Water Bulk Water Pricing*, Figure 7.1, p78

Note that right hand axis differs from previous graph as results are based on 100% allocation.

Based on feedback from a large number of its members regarding the financial challenges currently faced by dairy farmers and the added burden imposed by increasing water storage and dam safety charges, Harvey Water commissioned Marsden Jacob Associates to review farm profitability and the impact of these charges.

Marsden Jacob reviewed ABARES survey results in addition to local farm surveys and also undertook interviews with local farmers. Marsden Jacob found that ABARES results provided acceptable information when considering costs and revenues per litre of milk produced, but appeared to overstate the land area and herd size of an average farm. It is noted that the ABARES surveys capture a relatively small number of properties, of which the majority would be dry land dairy farms. Therefore, for the purposes of this report, all costs and revenues are expressed in terms of cost per litre of milk produced.

Marsden Jacob also noted that the ABARES methodology provided an accounting, rather than economic, view of profitability. In particular, the ABARES method did not allow for a return on capital invested. A return on investment has been particularly important over the past few years, as the amalgamation of farms has required new land purchases, and greater water use efficiency has required additional investment in capital such as centre pivot irrigation systems. As herd sizes and milk production for individual farms increases, additional capital items such as stainless steel vats are required. In addition, replacement of aging infrastructure is an ongoing requirement in the industry, including significant items such as rotary milking sheds, which can cost over \$1 million to replace.

Therefore, Marsden Jacob has recast the ABARES profitability results as a cost per litre of milk produced, expressed all items in December 2010 dollars and has allowed a real pre-tax return of 4% on the capital value of the business. A rate of 4% is at the extreme lower end of returns that are expected on private sector investments. A real 4% return equates to a nominal pre-tax return of around 6.5%, which compares with the average interest rate for dairy farms in 2009/10 of around

7% (based on ABARES interest and borrowings). Therefore a real return of 4% is considered barely adequate for any enterprise. Historically, returns to agriculture have varied considerably between different times and locations. In its report *Australian Farm Survey Results* (April 2011), ABARES noted that returns to capital on broadacre agricultural investments ranged from 7-11% between 2000-2007, with significantly lower results immediately preceding and following that period, including a return of around 0% in 2009/10. On the balance of evidence, we believe it is appropriate to allow for a minimum return of 4%, with upper values in the order of 8%.

Finally, Marsden Jacob has also allowed for capital appreciation in determining profitability. ABARES typically quotes rates of return both including and excluding capital appreciation, reflecting the fact that many farmers do not explicitly account for changes in land value in their assessment of profitability, particularly if their intention is for themselves or their family to hold the land for a long period of time. However, as the appreciation of land is a genuine benefit to landholders, an allowance for capital appreciation has been included, but has been normalised to adjust for the volatility in land prices that has been experienced in recent years. Land prices increased rapidly in the early part of the decade, but have been declining since at least 2006. Based on previous advice from LandCorp regarding growth in rural land prices, Marsden Jacob have 'normalised' the results by deflating the 2009/10 capital value by a nominal 5% per year. As the return of 4-8% is expressed in real terms, the capital appreciation has also been adjusted to remove the inflation component.

The results demonstrate that the costs of running a dairy business in WA have been greater than the revenue generated from the business in most years. A summary of the results is shown in Table 1.

**Table 1: Dairy farm profitability 2006-2011 (\$/litre Dec 2010)**

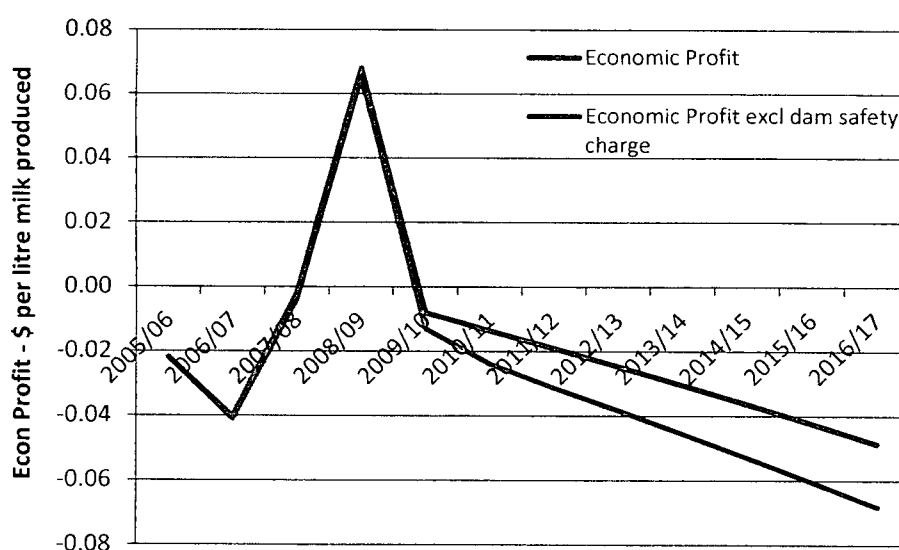
<b>Year</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>2010/11</b>
Capital value (normalised)	4.74	4.86	4.98	5.10	5.23	5.36	5.50
<b>Revenue (\$/l Dec 2010)</b>							
Milk sales		0.33	0.34	0.43	0.50	0.44	0.47
Cattle sales		0.11	0.07	0.08	0.11	0.09	0.08
Total revenue		0.45	0.42	0.51	0.60	0.52	0.54
Capital appreciation		0.12	0.12	0.12	0.13	0.13	0.13
Total income		0.57	0.54	0.64	0.73	0.65	0.68
<b>Costs (\$/l Dec 2010)</b>							
Fodder		0.09	0.10	0.13	0.14	0.13	0.15
Labour (incl own labour)		0.07	0.07	0.07	0.07	0.07	0.08
Fertiliser		0.04	0.04	0.04	0.04	0.05	0.05
Water		0.03	0.03	0.03	0.04	0.04	0.04
Other costs (excl interest)		0.15	0.12	0.13	0.11	0.13	0.15
Total operating expenditure		0.36	0.35	0.41	0.43	0.43	0.46
Depreciation		0.03	0.03	0.03	0.03	0.03	0.03
Return on Assets (@4%)		0.19	0.20	0.20	0.21	0.21	0.22
Total cost of production		0.59	0.58	0.64	0.67	0.67	0.70
<b>Economic Profit @4%</b>		<b>-0.02</b>	<b>-0.04</b>	<b>0.00</b>	<b>0.07</b>	<b>-0.01</b>	<b>-0.02</b>
<b>Economic Profit @8%</b>		<b>-0.22</b>	<b>-0.24</b>	<b>-0.21</b>	<b>-0.14</b>	<b>-0.23</b>	<b>-0.24</b>

The marginal returns are expected to continue in future years. In its 2011 outlook, Dairy Australia noted that 'While farmgate prices remain stable for many producers, the changes in supply of

*sizeable supermarket private label milk contracts are increasingly disruptive for processors and suppliers alike. Increased exposure for many producers to lower milk prices for a portion of their milk supply – reflecting supplies of milk in southern Queensland, NSW and Western Australia that are in excess of processor requirements.'*

The losses made by irrigators will be exacerbated by the further increases in water charges over the next five years as dam safety charges continue to be phased in. Figure 2 demonstrates the economic profit per litre with and without dam safety charges included in the water price, forecast to 2017. The chart demonstrates that significant additional efficiencies will be required for dairy farmers to generate a profit and that the challenges will be significantly greater with the continued imposition of dam safety charges.

**Figure 2: Economic profit with and without dam safety charges**



## Recent trends

Since deregulation, the number of dairy farms in WA has reduced dramatically – from 419 in 1999/2000 to only 170 in 2010/11.<sup>1</sup> Of these, around 63 properties provide irrigated water to an average of 30% of their property area.

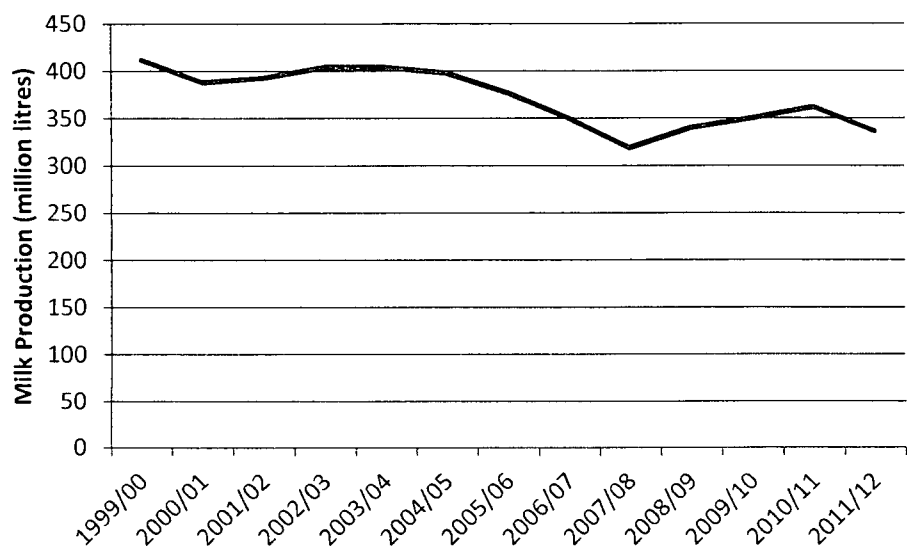
While some of the reduction in farm numbers has been through amalgamation, there has also been a significant decrease in business activity. The number of dairy cows has reduced from 65,000 to 55,000 and milk production has fallen from 412 million litres in 1999/2000 to between 319 and 362 million litres over the last 5 years (see Figure 3). For 2011/12, monthly production data compiled by Dairy Australia indicates that year to date production from July to January is down a further 7% compared with 2010/11.

The shortage in milk production saw prices spike significantly in 2008. The spike lasted for only a single year and since that time prices have returned to historically more moderate levels. With the lower milk prices, dairy farmers have stated that the costs of additional production are outweighing the benefits, thereby removing the incentive to increase production to meet these shortfalls. Milk

<sup>1</sup> Dairy Australia (2011) *Australian Dairy Industry In Focus 2011*

company Lion recently confirmed that 150,000 litres of milk was trucked from South Australia to fill local supply quotas.

Figure 3: Milk production by year in WA



Source: Dairy Australia (2011) *Australian Dairy in Focus 2011*. 2011/12 extrapolated based on Year to Date information as at January.

Local farmers have indicated that while many have retained their farms in the hope that profitability would improve, the number of farmers prepared to continue dairy farming is constantly diminishing.

With significantly increasing input costs, particularly for fodder production and purchase, dairy farms have been required to substantially increase efficiency over the last decade in order to maintain barely adequate returns. In addition to larger herds and improved yields per cow, farmers have adopted innovative management practices and technologies including soil testing, fodder conservation, irrigation, supplementary feeding, improved animal genetics, artificial insemination programs, new milking equipment and techniques, and computer performance monitoring.<sup>2</sup> With the significant improvements that have been made over the last decade, it is anticipated that further efficiencies will become increasingly difficult to achieve in the future. Farmers often complain, with some justification, that although they become increasingly efficient in their production, there is no greater profitability because this seems to be captured in the secondary and tertiary areas of the industry. That is, consumers benefit from cheaper prices brought about by more efficient production at the cost of farm profitability.

Furthermore, Western Australian farms have been particularly impacted by the long term change in climate conditions compared with the eastern states. Water allocations have dropped to around 35%-45% of full entitlements, compared to 100% 10 years ago, and are not expected to improve. CSIRO studies forecast that streamflows (which fill the dams with irrigation water) in the South West of WA will show a median decrease of 23% by 2030. Many farmers have had to install centre pivots and other water efficiency measures to make adequate use of the available water resource. In addition, farms drawing water from Wellington Dam continue to be frustrated by the high salinity levels and therefore low pasture yields, resulting in further cost pressures.

<sup>2</sup> Dairy Australia (2011) *Australian Dairy in Focus 2011*

Due to falling production and the high fixed costs of ownership, some recent water trades have occurred at zero cost due to the lack of willing purchasers. Any further cost imposition from higher dam safety charges will make water even more difficult to trade, potentially leaving no viable market.

With demand falling and many of the efficiency options becoming exhausted, many local farmers are questioning the viability of dairy farms and considering whether to leave the industry.

## Conclusions

In summary, the irrigated sector of the WA dairy industry has been faced with a number of significant challenges in the past decade, including substantial increases in the cost of fodder, reduced production and poor water availability and quality. The situation is not expected to improve in coming years and many farmers are questioning the viability of remaining in dairy farming.

The continued inclusion of dam safety costs in water charges will place increasing pressure on dairy farms, and will contribute to further reductions in milk production in the future, which will necessitate potentially inefficient alternatives such as trucking water from interstate.

As noted earlier, dam safety works have already been completed and any charges to irrigators will provide no further efficiency incentives. That is, no change in the behaviour of irrigators will alter any costs incurred by the Water Corporation – therefore charges will not serve to improve efficient outcomes, only to put at risk potentially viable businesses and drive the industry toward alternatives that will have a high marginal cost and represent a less efficient outcome for the community.

In addition, dam safety charges will impede otherwise efficient water trading between irrigators due to the high fixed costs associated with a water entitlement. The dam safety component does not relate to any marginal cost and therefore will not provide an effective pricing signal. A more efficient outcome would occur if the dam safety charge was reduced to reflect the incremental cost only (i.e. zero) to allow trading at the true marginal value.

Therefore, we request that the ERA review storage and dam safety charges to assist in retaining a profitable and efficient irrigated dairy industry.