

3. DEMAND FORECASTS

This section documents Umgeni Water's water demand forecast review that was completed in September 2009. The review process:

- Assessed and revised the short-term forecast for the financial year ending in June 2010 (2009/2010);
- Compiled a short-term forecast for the financial year ending in June 2011 (2010/2011); and
- Extended this short-term forecast to a long-term forecast (30-year forecast) to the end of June 2041 (2040/2041).

All data presented has been updated to include the September 2009 sales figures and all statistics and trends have been based on the moving annual average and year-on-year growth figures as determined at 30 September 2009.

3.1 2009 SALES FORECAST REVIEW

The initial forecasted water sales value, determined in October 2007, for the financial year ending in June 2009 (2008/2009) was 1 116 Ml/day. This value was reviewed as part of the sales forecasting process that occurred in October 2008. Sales volumes at the time were higher than anticipated, hence it was considered likely that this forecasted value would be exceeded and it was revised upward to 1 178 Ml/day. Sales slowed in the first half of 2009 in line with the drop in economic growth in the region (**Figures 2.20** and **2.21** in **Section 2.5**), and total sales recorded at the end of June 2009 were 1 140 Ml/day (415 956Ml/annum) (Umgeni Water Annual Report 2008/2009), falling between the two forecasted values.

The water sales volume sold at the end of the previous financial year (2007/2008) was 1 106 Ml/day (403 754 Ml/annum). The 2008/2009 sales is a 3.02% year-on-year increase on the 2007/2008 financial year and is the seventh consecutive year that Umgeni Water's sales have shown positive growth. This can be compared to the 8.00% growth that was realised in the previous financial year.

Since 2002, when the annual sales amounted to 315 370 MI, sales have increased by an average of 4.05% per annum. Annual sales over the past five years reflect an average annual growth rate of 4.12%. **Figure 3.1** shows the 12-month moving average of Umgeni Water's total average daily water sales and the year-on-year growth rate of these for the past 17 years.

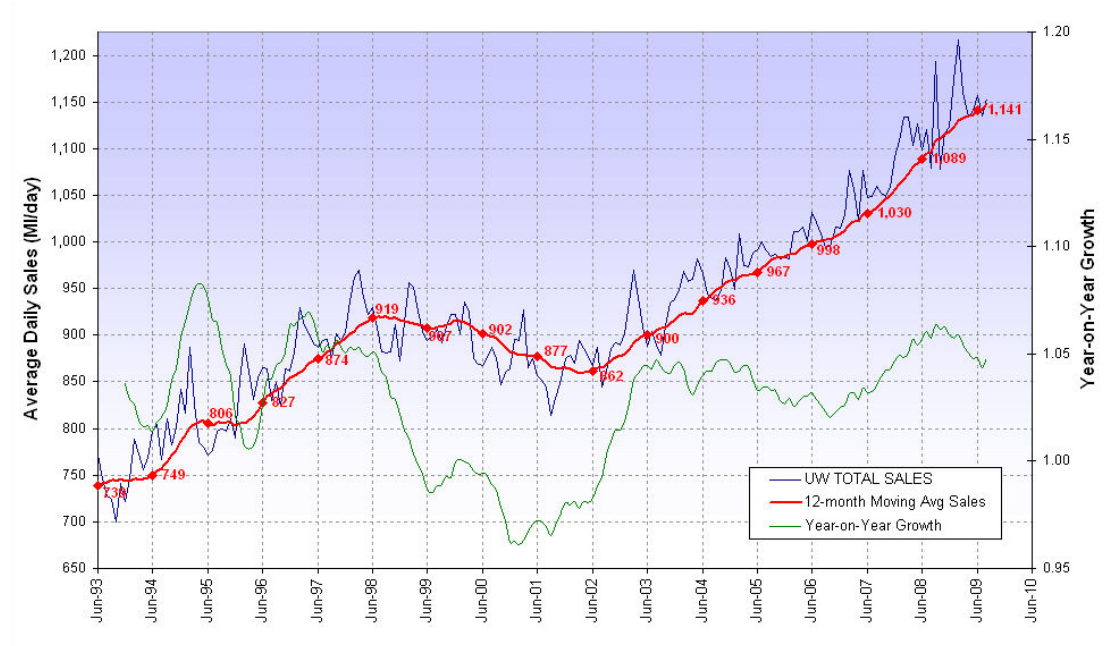


Figure 3.1 Umgeni Water total average daily sales volumes: 12-month moving average and year-on-year growth.

3.2 2010 SHORT-TERM BULK WATER FORECASTS

The recent international economic slowdown and the subsequent recession that beset the province of KwaZulu-Natal in the first quarter of 2009 (**Figure 2.17** in **Section 2.5**), and in particular Umgeni Water's area of operation, appears to have had an impact on bulk water sales. Whilst the rate of growth in sales has slowed, it still remains positive, and is expected to remain so in (at least) the short-term. The economy is showing signs of recovery (**Figure 2.17** and **Table 2.8** in **Section 2.5**), as there are still expectations of continued housing and commercial growth leading up to, and beyond, the 2010 World Cup event.

Bulk water sales to eThekweni Municipality constitute by far the largest percentage (77.1%) of Umgeni Water's total water sales. Consequently, the expected growth in

bulk water sales to eThekweni has a significant influence on Umgeni Water’s sales forecast. The Msunduzi Municipality is Umgeni Water’s second largest customer and hence also has an appreciable influence on the sales forecast. The remaining customers influence the forecast to a lesser degree. **Figure 3.2** illustrates the average daily sales volume split per customer as at the end of June 2009.

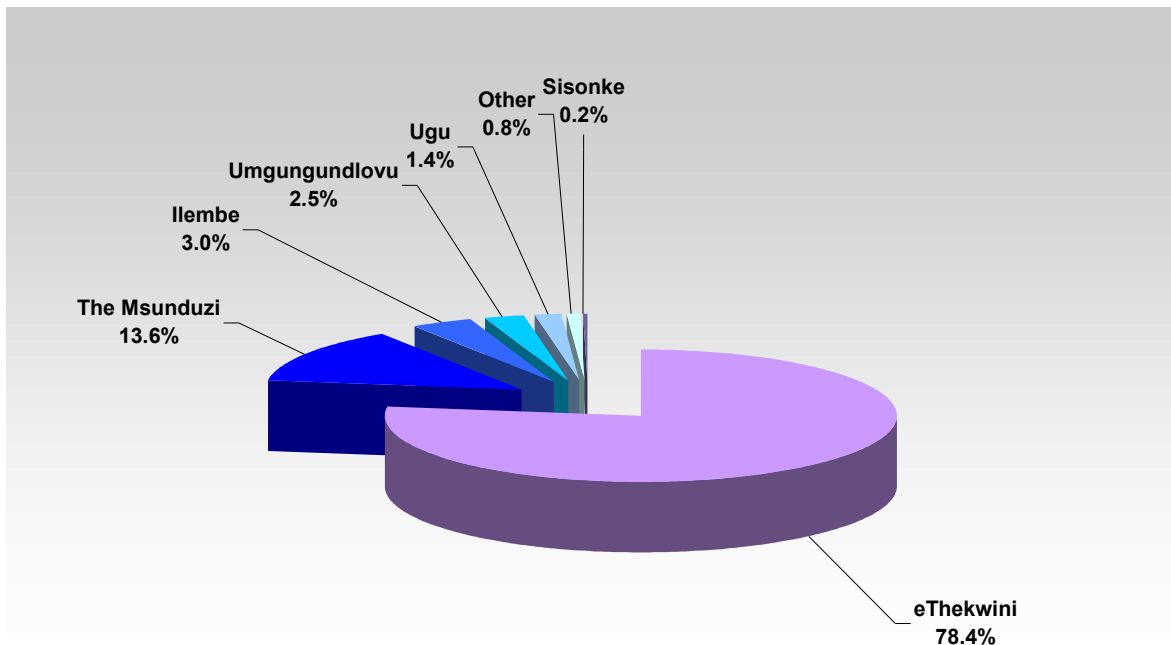


Figure 3.2 Distribution of Umgeni Water Sales Volumes at the end of June 2009.

In September 2008 the Umgeni Water short-term bulk water sales forecast for 2009/2010 was estimated to be 1,237 MI/day. Following recent discussions with Umgeni Water’s major customers, and based on the latest economic and water sector related development information available for the region, this value has been revised downward to 1 170 MI/day (**Figure 3.3**). This value is a consolidation of individual customer forecasts and, as stated earlier, is primarily shaped by the forecast provided by eThekweni Municipality. This forecast represents a 2.67% year-on-year increase in growth, and is a lower growth rate than what was actually achieved in the previous year (3.02%).

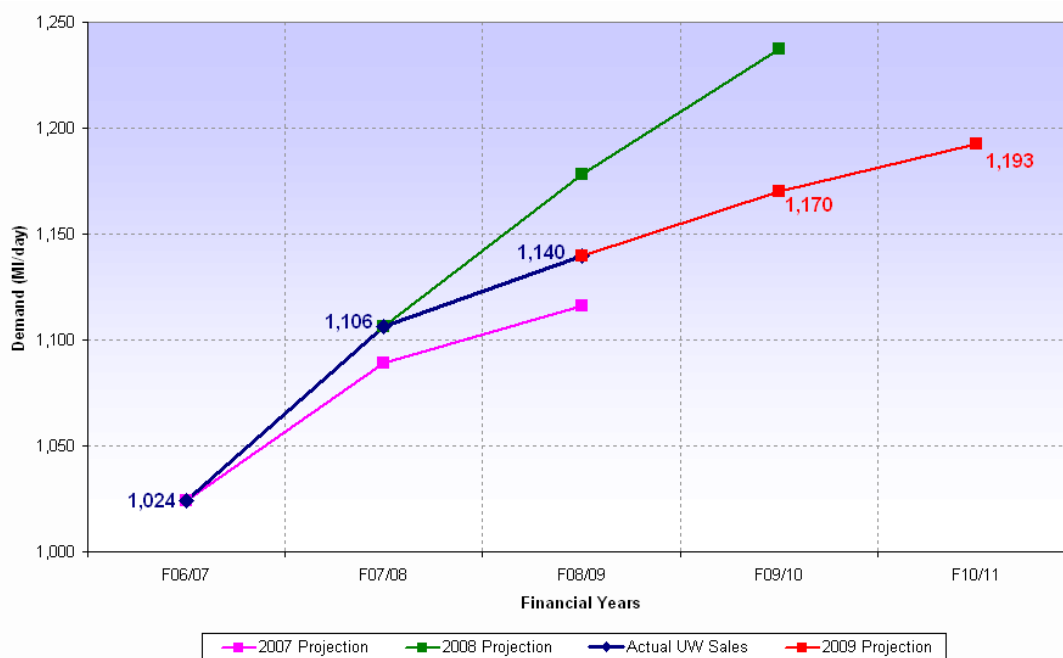


Figure 3.3 Umgeni Water total average sales volumes – annual short-term forecast comparison.

This trend is expected to continue into the following financial year. Resulting from the same discussions and analysis as mentioned in the preceding paragraph, the Umgeni Water short-term bulk water sales forecast for 2010/2011 is estimated to be 1 193 ML/day (**Figure 3.3**). This represents a 1.95% year-on-year increase in growth from 2009/2010, which is slightly lower than the previous year, and is again primarily determined by the forecast provided by the eThekweni Municipality.

3.3 CUSTOMER DEMAND TRENDS

3.3.1 ETHEKWINI MUNICIPALITY

It is expected that substantial urban and peri-urban housing growth will continue to occur within the eThekweni area, with a number of substantial developments already in various stages of implementation. Coupled with this is the completion of the new King Shaka International Airport (KSIA) that became operational on the 1st May 2010, which is expected to attract significant industrial and commercial development to the region. These factors will continue to drive growth in water sales in the eThekweni region, particularly to the north of the city of Durban (**Figure 2.19** in **Section 2.5**).

On the other hand, eThekweni Municipality are currently in the process of implementing an intensive Water Demand Management (WDM) programme, which includes a multi-million rand pipe replacement project, in order to reduce their non-revenue water. They anticipate that this programme will start having a marked impact on their water purchases from Umgeni Water, beginning in the 2009/2010 financial year.

The anticipated growth in bulk water sales to eThekweni (as presented by them) for 2009/2010 and 2010/2011 is 1.8% and 1.7% respectively. This equates to 894 MI/day in 2009/2010 and 926 MI/day in 2010/2011 (Figure 3.4). These forecast values are somewhat lower than the 3.4% actual growth achieved by eThekweni Municipality in 2008/2009, and the 5.4% achieved in 2007/2008.

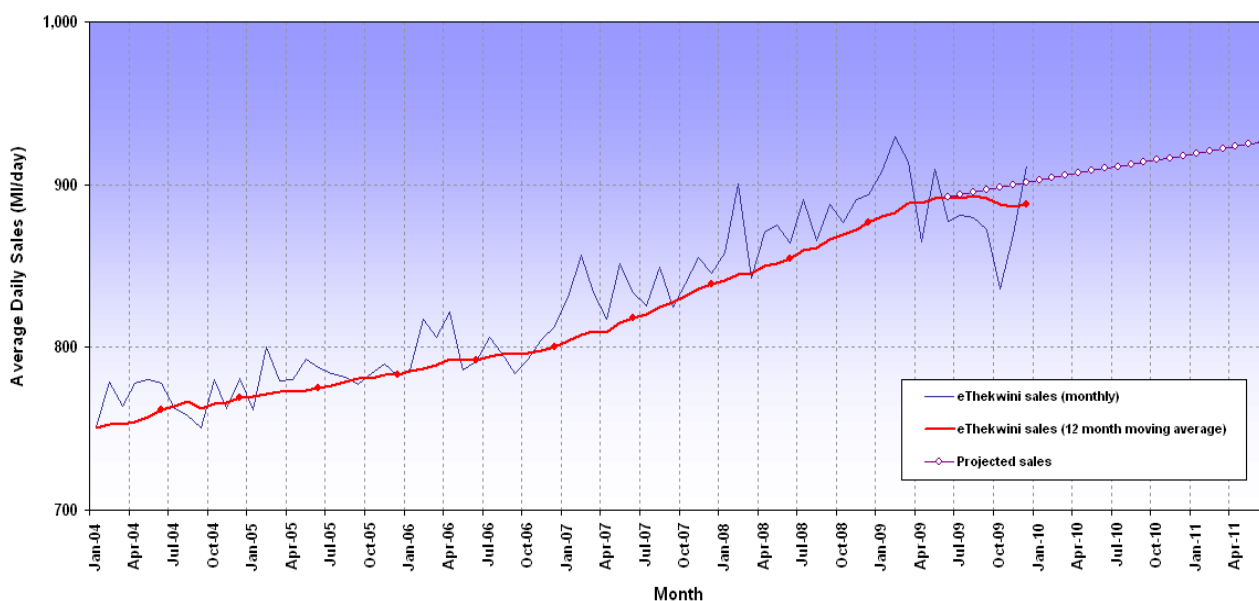


Figure 3.4 Sales to eThekweni Municipality.

3.3.2 THE MSUNDUZI MUNICIPALITY

Historically, the sales trend for Msunduzi has always been positive. **Figure 3.5** shows the sales trends in respect of the Msunduzi Municipality and projections for 2010/2011 and 2011/2012. The average daily sales, as at the end of June 2009, amounted to 155 MI/day. This represents a 1.9% reduction in sales from the 158 MI/day sold in the previous year. There is no obvious explanation for this reduction. Municipal officials indicated that no major leaks were repaired during this

period and there were no aggressive water loss initiatives undertaken. Average daily sales to The Msunduzi Municipality are expected to grow to 158 MI/day by June 2010 and to 161 MI/day by June 2011. This growth is lower than what was forecast previously, with actual sales currently below this revised forecast.

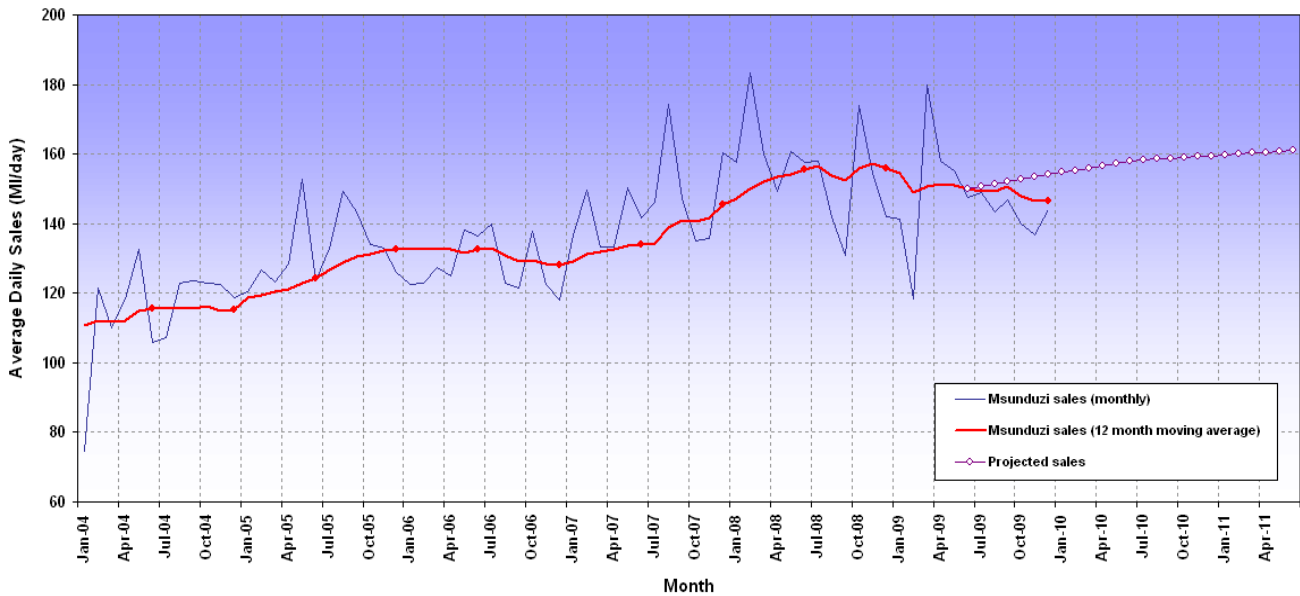


Figure 3.5 The Msunduzi Municipality total average sales volumes – annual short-term forecast.

There are no major developments planned that will result in any marked increase in demand within the short-term forecast period. Development within the Ashburton area (**Figure 2.19** in **Section 2.5** and **Section 2.8.3**) is expected to be the most significant demand driver over the next ten years or so, however, the development interest over the last year has slowed and it is anticipated that there will not be any significant developments that will influence the demand for the 2009/2010 and 2010/2011 financial years.

The municipality intends stepping up its water loss management initiatives but the time required to implement this programme, together with the lead time required before any benefits are realised means that water loss initiatives are not expected to have an influence on demands over the short-term.

3.3.3 UMGUNGUNDOLOVU DISTRICT MUNICIPALITY

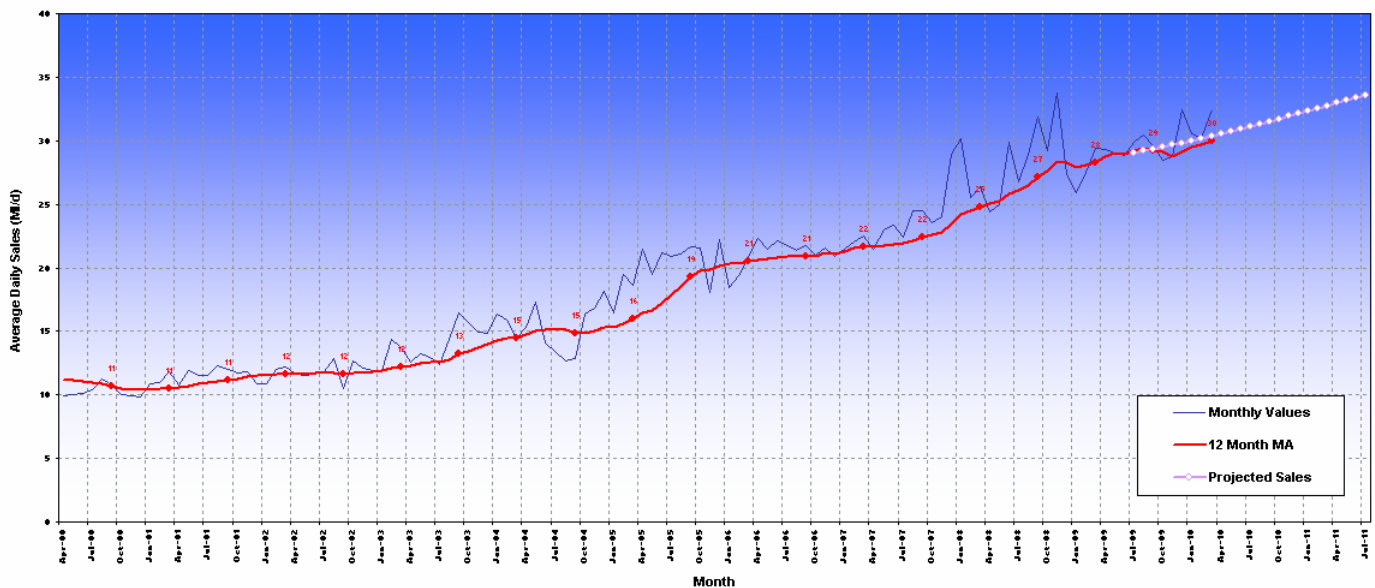
Sales to the Umgungundlovu District Municipality have shown significant growth between 2006/2007 to 2007/2008 (13%) and 2007/2008 to 2008/2009 (11.5%). This is reflected in **Table 3.1**.

Table 3.1 Actual and projected sales for Umgungundlovu District Municipality.

Financial Year	Sales (MI/day)	Variance	
2006/2007	23		Actual
2007/2008	26	13.04%	
2008/2009	29	11.54%	
2009/2010	30	3.45%	Projected
2010/2011	32	6.67%	

The Umgungundlovu District Municipality believes that this type of growth will not be sustained in the short to medium-term. As indicated in **Table 3.1**, the projected demand is 30 MI/day for 2009/2010 and 32 MI/day for 2010/2011.

The demand profile for Umgungundlovu is illustrated in **Figure 3.6**.



Apart from the natural growth in demand, the following middle to high-income developments in uMngeni Municipality are expected to influence demand in 2010/2011:

- Blueberry 100 kl/day
- Yellowwood 43 kl/day
- Garlington 350 kl/day

These demands have been taken into account in the projections.

3.3.4 ILEMBE DISTRICT MUNICIPALITY (INCLUDING SIZA WATER)

Metered sales to Ilembe District Municipality currently account for about 3.7% (42.6 Ml/day) of Umgeni Water's total bulk sales (**Figure 3.2**). Sales to Ilembe Municipality include supply to the Siza Water concession areas of Ballito and the Dolphin Coast. Supply to Ilembe Municipality's rural water schemes in Ndwedwe and Groutville, periodic transfers through to KwaDukuza and sales to other rural bulk water schemes make up the balance.

Figure 3.7 shows the Siza Water sales trends and projections up to July 2011. The average daily sales to Siza Water at the end of June 2009 were approximately 10.4 MI/day with a year on year growth of 1.81%.

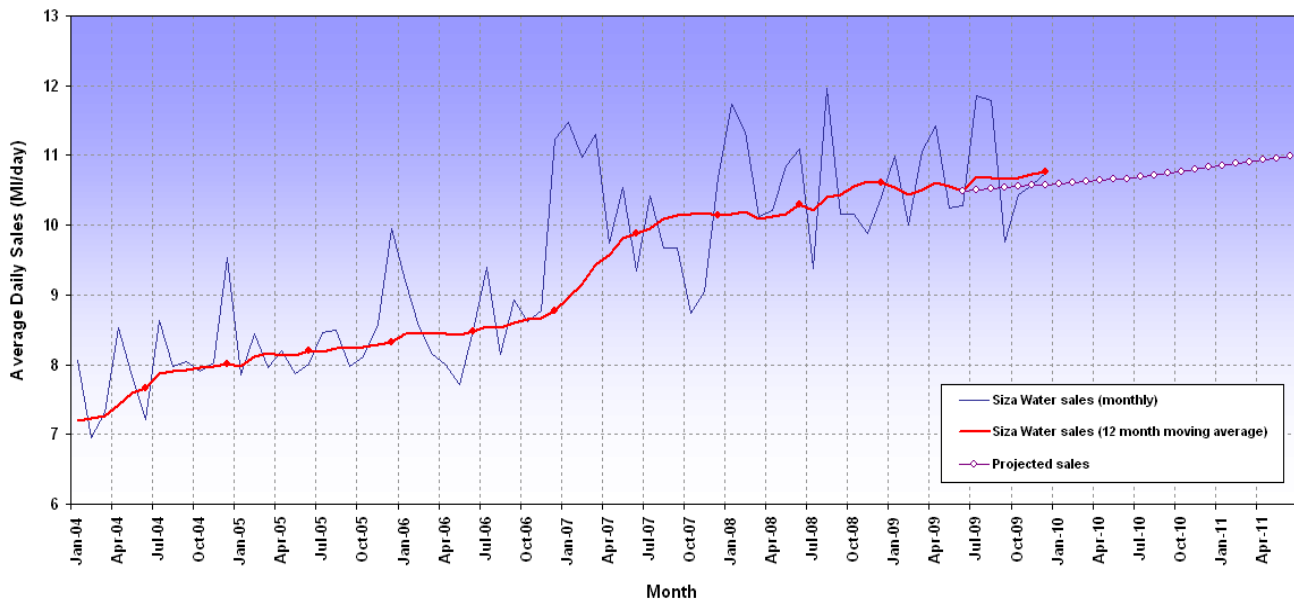


Figure 3.7 Daily sales projection for Siza Water.

Historically growth in the Siza Water concession area has been driven by commercial and housing developments. With the recent downturn in the economic climate (**Section 2.5**), many of these developments have been put on hold. Siza Water have agreed that a standard growth of 3.0% be used for predicting future sales in the area over the next two years. This growth equates to sales of 10.7 MI/day by June 2010 and 11.0 MI/day by June 2011.

The potential for housing development within the Siza Water concession area remains significant, as shown in **Figure 2.23** in **Section 2.5** and Umgeni Water must make allowance for these developments in its infrastructure when they proceed.

In July 2007 Umgeni Water took on the responsibility of managing 37 small rural schemes on behalf of Ilembe District Municipality. Sales from these schemes amount to 2.7 MI/day in the Ndwedwe Municipality, 2.9 MI/day in the Maphumulo Municipality and 1.9 MI/day in the KwaDukuza Municipality. In addition, Umgeni Water also manages the Mvoti WTP, and current sales from this WTP to the town of KwaDukuza amount to 15.5 MI/day. A zero percent growth has been assumed for the rural

schemes and natural growth in sales in the town of KwaDukuza is expected to be offset by water demand management initiatives being implemented in the town.

3.3.5 UGU DISTRICT MUNICIPALITY

Direct sales to Ugu District Municipality increased dramatically during 2009. Water demand at the end of April 2009 stood at approximately 14.8 MI/day (1.3% of Umgeni Water's total sales volume). Year-on-year sales growth at the end of December 2009 stood at 5.4% (compared to -0.85% at the corresponding time in 2008). These figures have been derived from the sum of the sales in the Umzinto, Mtwalume, Mfume, and Craigieburn systems and the sales off the recently commissioned South Coast Pipeline Phase 1.

It should be noted that the Craigieburn node serves both eThekweni Municipality and Ugu District Municipality. Whilst the Craigieburn WTP has been mothballed, the South Coast Pipeline feeds into the Craigieburn clear wells. Umgeni Water sells water to eThekweni Municipality at the Craigieburn node, who in turn sell water on to Ugu District Municipality. Thus this sale is attributed to eThekweni Municipality, whereas approximately 20% of the Craigieburn sale is eventually consumed by Ugu District Municipality consumers.

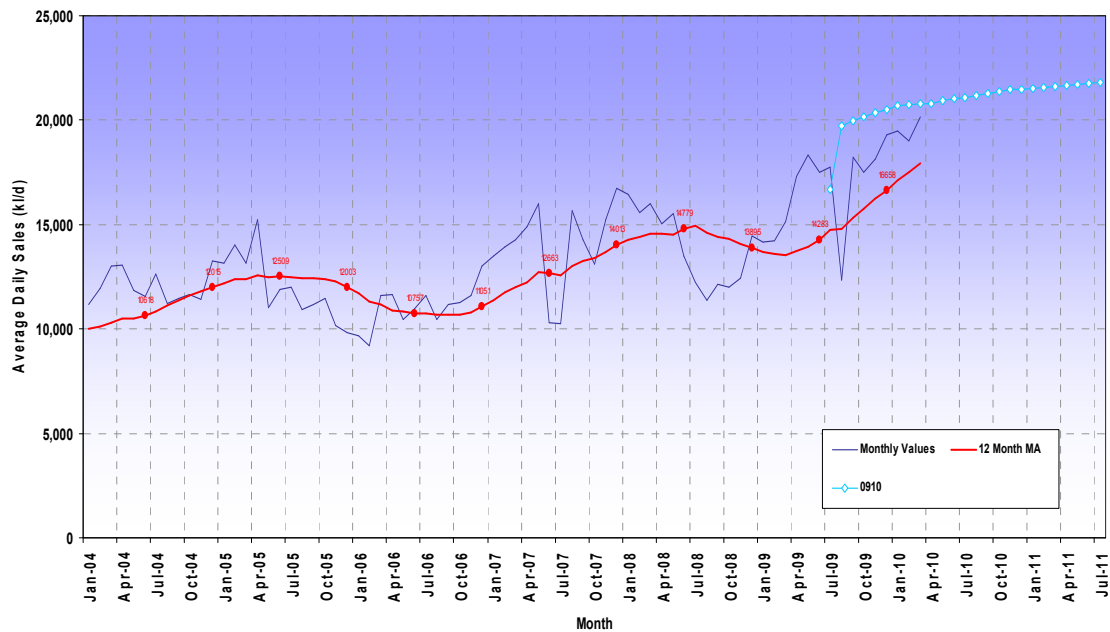


Figure 3.8 Daily sales projection for Ugu District Municipality.

Figure 3.8 shows the Ugu District Municipality sales trends at the end of March 2010 and the projections for 2009/2010 and 2010/2011. Average daily sales are projected to grow to 21.02 MI/day by June 2010 and 21.75 MI/day by June 2011 as more areas are connected onto the South Coast Pipeline Phase 1 and later onto the South Coast Pipeline Phase 2a.

3.4 LONG-TERM FORECAST

The 30-year long-term sales forecast for Umgeni Water’s supply area in (**Figure 3.9**) has been determined for the anticipated natural growth from the existing supply system, as well as for natural growth plus bulk sales from new supply infrastructure that would extend the area supplied. This new infrastructure and the timing of its implementation are taken from Umgeni Water’s 2010/2011 30-year CAPEX programme. The base projection (i.e. for natural growth only) has been developed from the short-term forecasts described in **Section 3.3** of this report and then extended at a compounded 1.5% growth rate until 2040/2041. This growth rate is considered acceptable for this long-term forecast as it matches relatively closely to the forecast that was independently derived as part of the “Water Reconciliation

Strategy Study for the KwaZulu-Natal Coastal Metropolitan Areas” recently completed by DWA, using a population projection technique (**Section 2.8.1**).

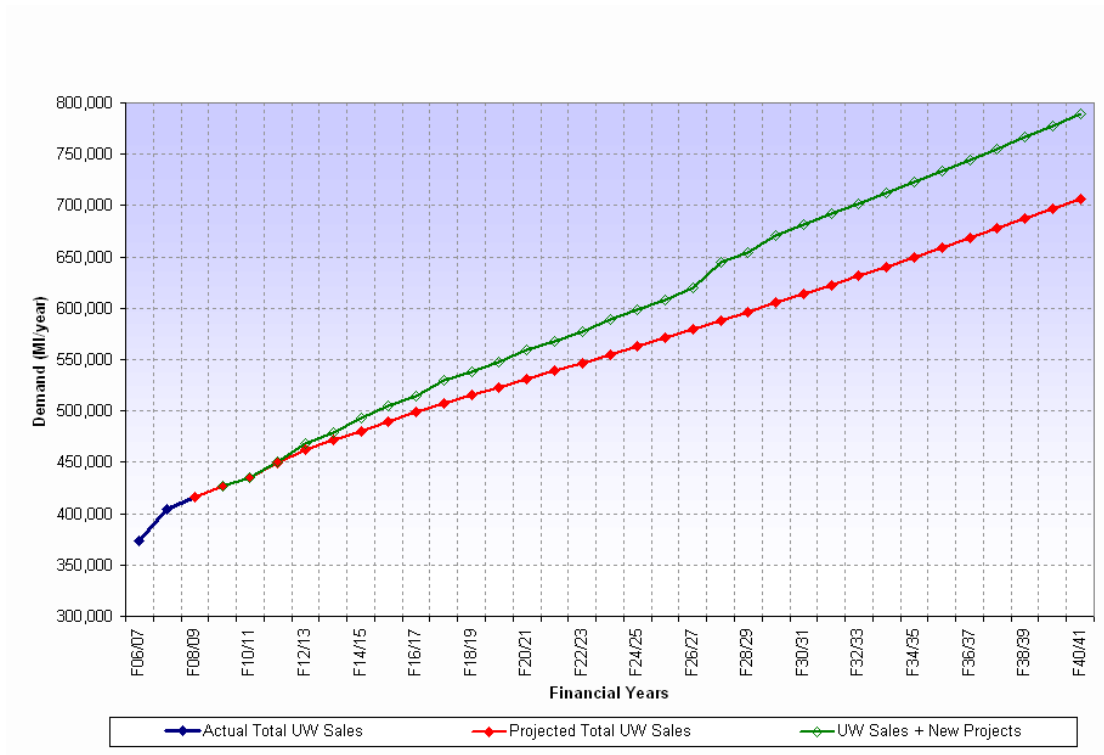


Figure 3.9 Umgeni Water’s long-term bulk water sales forecast.