

Current Situation: 27 June 2005

The 20% restrictions imposed by DWAF on the 1st October 2004 will remain in place until the situation improves.

From the 1st November 2004 till 4th April 2005 the storage dropped by 33%, from 60% to 27%. Subsequently, rainfall during the early winter has helped to reverse the drawdown of the dams and raised the dam levels by about 25% to 52%. In Table 1, if one compares the storage in the system on the 27th June with the storage on the 4th April then the total storage of all dams has increased by 190.6 million m³. In the last week, (from the 20th to the 27th June), the storage increased by 11 million m³.

According to the weather forecasts, there is a slight chance of rain on Thursday 30th June. The long-range forecasts of the Climate Systems Analysis Group (CSAG) at UCT do not show a high chance of above average rainfall for the rest of the winter.

Table 1: Storage on 27th Jun 2005

Dam	Gross 4-April -05			Gross 27 Jun 05			Increase
	Capacity	Storage	%	Capacity	Storage	%	Mcm
Steenbras Upper	31.7	13.6	43%	31.7	29.9	94%	16.3
Steenbras Lower	33.5	13.2	39%	33.5	22.8	68%	9.6
Wemmershoek	58.6	20.5	35%	58.6	32.2	55%	11.7
Voëlvlei	165.4	35.7	22%	165.4	60.2	36%	24.5
Theewaterskloof	480.2	124.1	26%	480.2	252.6	53%	128.5
Total	769.4	207.1	26.9%	769.4	397.7	52%	190.6

Abstraction from the Steenbras Dams must continue to be maximized to reduce the risk of those dams spilling. However, if the Upper Steenbras Dam is drawn down below 13 million m³ then this will interfere with the operation of the Steenbras Pumped Storage Scheme and the City of Cape Town will stop supplying water from this dam. Measures have been made to minimize the supply from Voëlvlei Dam to enable it to start filling.

Table 2 gives the original restricted target demands to attain a 20 % saving. During the period from October to May 2005 the total demand on the system has exceeded the target demand by about 1% as can be seen at the bottom of Table 3 where the total demand is 101% of the original target. The detailed breakdown of the demands is summarized in Table 4. Some of the smaller demands must still be checked, but taken as a whole they indicate that the current consumption is close to target primarily because of savings achieved in the agricultural sector resulting from the rains in October, January and in April. Table 5 shows the revised target demands to ensure that the target demand is met while Table 6 expresses the revised target demands as a percentage of the prevailing uncurtailed demands. For instance, the City of Cape Town's demands should be reduced to 69% of the prevailing (uncurtailed) demand to achieve the required 20% reduction in demand from 1 October 2004 to 31 September 2005.

Table 2: Original Target Demands from 1 Oct 2004 to 30 Sep 2005

Consumer	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Restricted target
West Coast	1.4	1.6	1.6	1.7	1.6	1.7	1.4	1.3	1.1	1.2	1.2	1.3	16.9
City of Cape Town (Revised 1 Jan'05)	22.6	23.5	24.6	24.6	23.4	23.8	21.6	20.9	19.4	19.6	19.9	19.6	263.4
Stellenbosch	0.1	0.2	0.3	0.3	0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.1	2.4
Lower Berg IB	0.0	2.1	2.1	3.0	2.5	2.7	1.4	0.2	0.1	0.1	0.1	0.1	14.5
Zonderend IB	0.0	3.4	3.9	4.9	5.1	4.5	2.4	0.8	0.2	0.0	0.0	0.0	25.2
Overberg Water	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.5
Vyeboom IB	0.5	1.4	1.8	2.0	2.0	1.6	0.8	0.3	0.1	0.0	0.0	0.1	10.6
Pumping from Theewaterskloof	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.0	0.0	0.0	0.0	1.2
Siphon Release U Berg	0.0	2.6	6.7	11.4	10.3	9.6	0.0	0.0	0.0	0.0	0.0	0.1	40.8
Banhoek	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	1.4
Stellenbosch IB	0.2	0.5	0.7	0.9	1.0	0.9	0.7	0.4	0.3	0.4	0.4	0.1	6.4
Helderberg IB	0.3	0.9	1.3	1.4	1.2	1.1	0.7	0.4	0.2	0.2	0.2	0.2	8.0
Lower Eerste River IB	0.0	0.2	0.5	0.8	0.7	0.8	0.4	0.2	0.1	0.0	0.0	0.0	3.7
24 Rivers IB	1.8	1.6	1.4	1.2	1.3	1.2	1.3	1.1	1.2	1.1	1.1	1.7	16.0
Total	27	38	45	53	50	49	32	26	23	23	23	24	413

Table 3: Actual consumption for October to May as a percentage of the original target demand

Consumer	October to May
West Coast	109%
City of Cape Town (Original target)	106%
Stellenbosch	74%
Lower Berg IB	127%
Zonderend IB	85%
Overberg Water	112%
Vyeboom IB	93%
Pump from TwK	122%
Siphon Release U Berg (assuming 0.5m ³ /s released at Sonquas)	100%
Banhoek	115%
Stellenbosch IB	97%
Helderberg IB	77%
Lower Eerste River IB	41%
24 Rivers IB	96%
Total	101%

Table 4: Unverified actual demands for Oct 2004 to May 2005

Consumer	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
West Coast	1.6	1.9	1.9	1.8	1.5	1.6	1.6	1.3
City of Cape Town	23.7	26.2	27.8	26.7	23.8	25.2	21.8	20.1
Stellenbosch	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3
Lower Berg IB	0.0	2.6	5.5	5.0	1.6	2.7	0.4	0.0
Zonderend IB	0.0	4.6	4.0	3.7	3.4	4.6	0.9	0.0
Overberg Water	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2
Vyeboom IB	0.3	1.2	1.7	1.9	1.8	1.6	0.8	0.3
Pump from TwK	0.1	0.2	0.2	0.3	0.1	0.2	0.1	0.2
Siphon Release U Berg (assuming 0.5m ³ /s released at Sonquas)	0.0	2.3	9.4	10.5	8.2	9.1	1.1	0.0
Banhoek	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.1
Stellenbosch IB	0.4	0.7	1.0	0.9	0.7	0.6	0.4	0.4
Helderberg IB	0.4	0.7	0.7	1.4	0.85	0.9	0.3	0.2
Lower Eerste River IB	0.0	0.0	0.4	0.6	0.4	0.0	0.0	0.0
24 Rivers IB	1.3	1.9	1.2	1.3	1.3	1.2	1.2	1.1
Total	28.1	42.8	52.7	54.8	44.3	48.3	29.4	24.2

Note : Figures shaded yellow have been estimated.

Table 5: Revised targets with reduced demands from June 2005

Consumer	Annual Target	Consumed	Remaining target consumption				Remaining
			Jun	Jul	Aug	Sep	
West Coast	17	13	0.9	0.9	0.9	1.0	4
City of Cape Town (Original target)	263	195	16.7	17.1	17.1	17.2	68
Stellenbosch	2	2	Within target				
Lower Berg IB	14	18	0.00	0.00	0.00	0.00	0
Zonderend IB	25	21	Within target				
Overberg Water	2	2	0.13	0.13	0.12	0.14	1
Vyeboom IB	11	10	Within target				
Pump from TwK	1	1	0.00	0.00	0.00	0.00	0
Siphon Release U Berg (assuming 0.5m ³ /s released at Sonquas)	41	41	0.06	0.02	0.00	0.19	0
Banhoek	1	2	0.00	0.00	0.00	0.00	0
Stellenbosch IB	6	5	Within target				
Helderberg IB	8	6	Within target				
Lower Eerste River IB	4	1	Within target				
24 Rivers IB	16	10	1.3	1.2	1.2	1.8	6
Total	413	327	26	21	21	22	86

Table 6: Effective curtailment (with respect to the uncurtailed prevailing demands) to achieve a 20% saving

Consumer	Restrictions wrt prevailing requirement
West Coast	62%
City of Cape Town (Original target)	69%
Stellenbosch	Within target
Lower Berg IB	0%
Zonderend IB	Within target
Overberg Water	57%
Vyeboom IB	Within target
Pump from TwK	0%
Siphon Release U Berg (assuming 0.5m ³ /s released at Sonquas)	Within target
Banhoek	0%
Stellenbosch IB	89%
Helderberg IB	Within target
Lower Eerste River IB	Within target
24 Rivers IB	87%
Total	77%

One of the reasons for the City having to increase the curtailment is that the restrictions have provided less saving than anticipated, probably as a result of the success of earlier water demand management measures. Since the last restrictions in 2000/01 the proportion of the water used in Cape Town for gardening has reduced to about 20%. To achieve a 20% saving it is necessary to also reduce consumption within the home. To illustrate this, the minimum monthly demand during winter was 21.7 million m³/month, and if this demand were to be maintained for 12 months (assuming that there is no increase in demand for gardening during summer) the resulting consumption of 260 (21.7 x 12) million m³/a would account for 99% of the City of Cape Town's target demand of 263.4 million m³/a (Table 2 above). Any water applied to the gardens must be earned through saving water elsewhere through the year.

Enforcement by authorities should also target wasteful individuals and possibly introduce punitive water tariff structure to discourage consumers from exceeding reasonable targets.

Figure 1 estimates the probability of the different levels of restrictions after the 2005 winter. If average inflows were to be obtained during the winter the storage trajectory would have followed the blue line and restrictions of the order of 10%-20% would have been applied in Oct / Nov 2005. There was a 20% or 1 in 5 chance that the storage would follow the yellow trajectory and that the 20% restrictions will be retained. If inflows similar to those of the last two years were to have been obtained then the storage would have dropped further despite the restrictions and the restrictions would have been

increased to 30%. There was a 2% risk of even lower inflows requiring restrictions of 40% or more.

However, because of the rain in the early winter the storage in the dams is now above the average expected level.

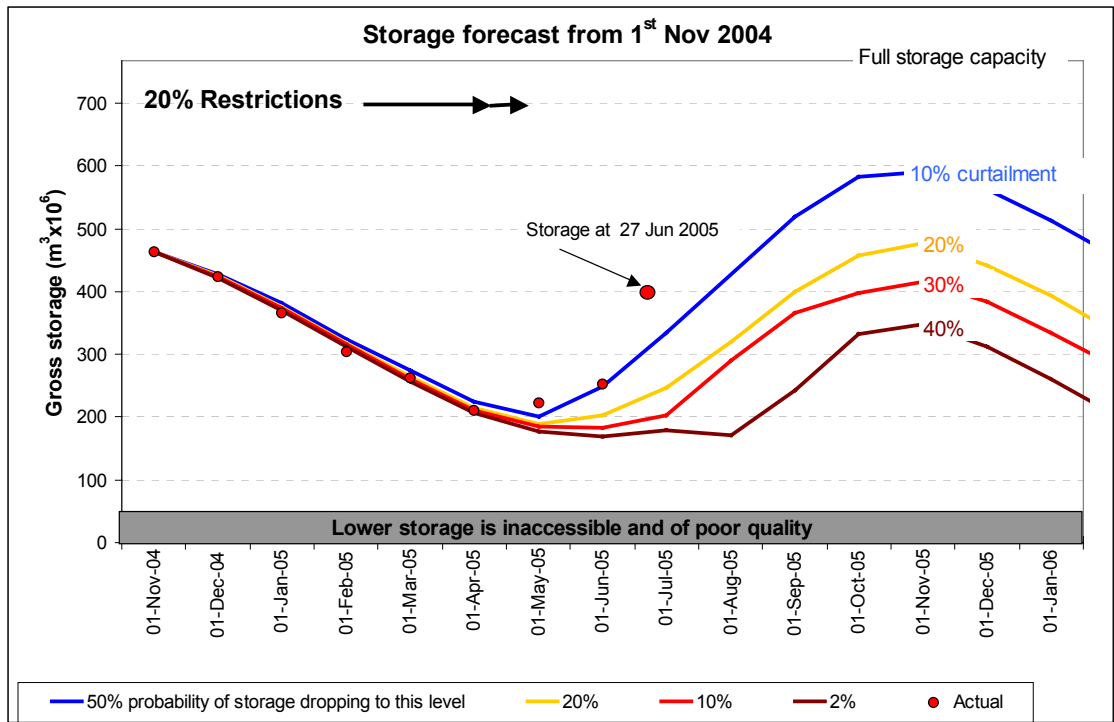


Figure 1: Storage forecast for major dams supplying Cape Town