Minutes of the Komati Joint Operations Forum Meeting

23/10/2008
Driekoppies Dam Board Room

Stakeholder Participation

Organisation	Organisation Abbreviation	Represented by	Apologies
Department of Land Affairs - Mpumalanga	DALA-MPU	Marius van Rooyen	-
Department of Water Affairs and Forestry	DWAF	-	Johann van Aswegen
Emandla Ekuphila Water Users Association	EEWUA	-	Anne Kruger
Inkomati Catchment Management Agency	ICMA	Brian Jackson Marcus Selepe	-
Komati River Irrigation Board	KRIB	Willie du Toit	Cornelius Mhlabane Martin Slabbert
Komati Water Basin Authority	KOBWA	Sidney Dhlamini Mathokoza Manana Sampie Shabangu	-
Lomati River Irrigation Board	LRIB	Willie du Toit Richard Granville Andre van der Merwe	-
Ministry of Natural Resources – Department of Water Affairs	MNRE-DWA	-	Sakhiwe Nkomo
Mhlume Water / Royal Swaziland Sugar Corporation	MW/RSSC	Leonard Ndlovu	-
Swaziland Electricity Board	SEB	-	Samson Thwala

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Agenda

1. Welcome and Attendance
2. Adoption of the Agenda
3. Approval of the minutes of the previous meeting
4. Matters Arising, otherwise not on the agenda
   - Action Items
5. RSA Middle Komati Computed Water Use Presentation
6. Mhlume Water Use Management Presentation
7. Water use and storage reconciliation statements
8. Information Exchange and Drought Issues
9. Any Other Business
10. Closure

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Adoption of Previous Minutes

The minutes of the meeting of the 21 August October 2008 were approved with the following corrections:

- On page 3, paragraph 2, line 1, the sentence 'Collection of electricity usage for April 2008 and calculation for the reach between Mananga and Tonga' to read, 'Collection of electricity usage data for April 2008 and calculation for the reach between Mananga and Tonga'.
- On page 9, the meeting proposed that the storage trajectory graphs be labelled. KOBWA undertook to label the graphs in future and informed the meeting that the blue curve represented Observed Data and the red curve represented Predicted Data.
- On page 11, paragraph 1, line 1, was corrected to read 'Mr. A. van der Merwe highlighted the difficulties in managing the flows required across the Komatipoort gauging station as a result of little storage regulation on the Crocodile River'.

Matters Arising

Water Use Forecasts

KOBWA reported that they are in possession of the three month's forecast until December 2008. Water users were reminded to submit the revised and updated forecasts each month as required by the ISOTG rules.

Water Users

Conversion of treaty allocation for Nooitgedacht and Vygeboom

DWAF & ICMA

Recommendations & Decisions Taken

1. In the absence of DWAF, the meeting requested that ICMA pursue the matter and report back to the KJOF at their earliest convenience. Mr. Jackson of ICMA agreed to this responsibility on behalf of ICMA.

Progressive Realisation of Inco-Maputo Agreement (PRIMA)

KOBWA advised the meeting that they were in possession of documents related to the PRIMA from DWAF, however were not authorised to distribute these further.

KOBWA & RSA Water Users

KOBWA reported that the proposed workshop was cancelled as an insufficient number of topics were submitted to warrant this event.

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Recommendations & Decisions Taken

1. MNRE – DWA requested, as a party to the PRIMA, to present at the following KJOF meeting on the current activities under PRIMA. Mr. Simelane agreed to facilitate a presentation at the following KJOF meeting.
2. MW/RSSC proposed that stakeholders should be provided with an opportunity to interrogate the impact of PRIMA on the operations of the Komati river system. KOBWA indicated that the Future Development Studies (FDS) project team planned to conduct a stakeholder workshop at the end of January 2009. This workshop would provide stakeholders with an opportunity to discuss the implications of the PRIMA.
3. KOBWA recommended that members of the KJOF attend the FDS and Environmental Water Requirement (EWR) studies workshop (as discussed above) in order to raise and debate issues. The meeting concurred.

RSA Middle Komati Computed Water Use Presentation

KOBWA
RSA Water Users

KRIB presented the findings to the KJOF meeting. The water use estimates by KOBWA in the previous year were generally comparable with KRIB estimates. In April / May 2008, the discrepancy between KRIB and KOBWA figures commenced. KRIB estimated the cumulative irrigation water use at the end of May 2008 at 5.8 Mm^3 whereas KOBWA's estimated figure for the same period is 16.3 Mm^3.

The following discussion is also noted:

- KRIB indicated a difficulty in obtaining electricity usage data for the Lower Komati river reach. Farmers regarded this information as private and confidential.
- KOBWA reminded the meeting that the ISOTG rules stipulate measured abstraction figures and not estimates, as a prerequisite for synthesising the water use reconciliation statements. The meeting was cautioned against assuming that the electricity usage data could replace the measured abstraction data. This may be used in the interim as a mitigating measure as it is subject to a wide band of confidence. Role-players in RSA were encouraged to facilitate submission of the measured abstraction figures to KOBWA.
- LRIB raised an enquiry concerning the involvement of ICMA in resolving the unavailability of abstraction data in the middle Komati. ICMA noted that they were involved in ongoing efforts to meter the Mid Komati abstraction points. However, there were constraints in this section of the river that would not permit the data to be available soon enough.

Recommendations & Decisions Taken

1. KOBWA to investigate the discrepancy in the water use figures for April and May 2008 and report back at the next meeting;
2. The method employed by the RSA Water Users be extended for a further six months to improve the level of confidence in the data used and the integrity of the results; and
3. That the methodology employed by the RSA Water Users be extended to the Lomati and Lower Komati reaches to ascertain levels of confidence.

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Water Usage and Storage Reconciliation Statements

KOBWA

KOBWA presented the Water Usage and Storage Reconciliation Statements.

The following was highlighted in the presentation by KOBWA:

- The combined observed reference storage curve was still above the trajectory predicted at the beginning of the Water Year.
- Water use was above the expected use on 30 September 2008. South Africa used 26.9 million cubic metres and Swaziland used 17 million cubic metres. This appears as overuse but was allowable as both Parties still had banked water in the system.
- However, the RSA banked water was being depleted and the monthly usage would soon be limited to the ISOTG allowable use.
- The use of the term 'Reserve' on the Reconciliation Statements was used to replace 'Water for Mozambique', as recommended by the JWC.

The following was raised in discussion of the data presented:

- The methodology used by KOBWA to predict the storage trajectory is based on the following assumptions in the Rationing model ™.
    - Conjunctive operation of the Maguga and Driekoppies Dams, where the rule is to maintain the same percentage storage in both dams by increasing the supply to the lower Komati irrigators by supplying the bulk of the demand from the fuller of the two dams;
    - Factoring in the accruals downstream of the Maguga and Driekoppies Dams with the assumption that a portion of the accruals would spill and therefore be inaccessible to the irrigators;
    - Adopting the irrigation distribution patterns throughout the year as agreed in the ISOTG for the various river reaches;
    - High assurance allocations are not curtailed in the analysis;
    - Low Assurance Treaty demands are curtailed iteratively to ensure that the dams do not empty in less than approximately 18 months; and
    - No allowances are presently made for the environmental water requirements as these are as yet unspecified.

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DATA REQUIRED FOR SEPTEMBER 2008 RECONCILIATIONS

CUSTODIAN/ WATER USER	DATA REQUIRED	DATE RECEIVED	IMPORTANCE
SWADE	ABSTRACTION DATA	3-Oct-08	HIGH
MHLUME WATER	ABSTRACTION DATA	1-Oct-08	HIGH
HOST AREA	WATER USE	3-Oct-08	HIGH
DWAF	KOMATIPOORT GAUGING STATION DATA	2-Oct-08	HIGH
MNRE-WRB	ABSTRACTION DATA	(SEE SWADE)	HIGH
MNRE-WRB	NGOWANE GAUGING STATION DATA	8-Oct-08	HIGH
LRIB & KRIB	ABSTRACTION DATA	7-Oct-08	HIGH

LATE SUBMISSION: DEADLINE 3RD WORKING DAY OF MONTH

AVAILABLE INFORMATION FOR SEPTEMBER 2008 WATER RECONCILIATIONS

DAMS	MAGUGA DAM	DRIEKOPPIES DAM
TOTAL INFLOW FOR THE MONTH (Mm^3)	5.9	3.5
TOTAL OUTFLOW FOR THE MONTH (Mm^3)	36.4	9.1
VOLUME ON SEPTEMBER 30TH (Mm^3)	259.7	135.1
PERCENT FULL ON SEPTEMBER 30TH	77.8	53.8

GAUGING STATIONS	VOLUME(Mm^3)
ENJAKENI WEIR	22.8
MANANGA WEIR (NOT ADJUSTED)	22.7
TONGA WEIR	16.6
LEBOMBO WEIR	2.4
KOMATIPOORT WEIR	6.5

RECORDED ABSTRACTIONS	AVAILABILITY
HOST AREA (USE)	YES
PROJECT DEVELOPMENT AREA- SWADE	YES
MHLUME WATER	YES
MANANGA BORDER TO TONGA WEIR	NOT SUBMITTED
DRIEKOPPIES DAM TO CONFLUENCE	YES
TONGA WEIR TO LEBOMBO WEIR	YES

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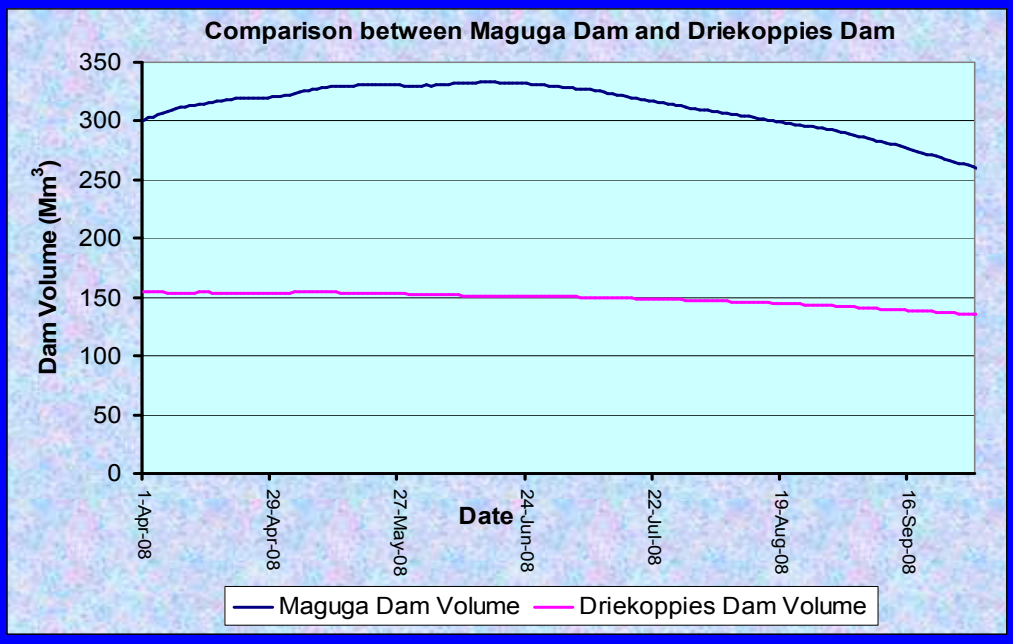

WATER USE DOWNSTREAM OF DRIEKOPPIES DAM AND MANANGA IN SOUTH AFRICA
September 2008

	AMOUNT (million m³)	BALANCE (million m³)
Water use from Driekoppies Dam	46.7	
Add flow across Mananga Border	90.7	
		137.4
Subtract releases for Mozambique	18.3	
		119.1
Subtract riverine losses	13.2	
		105.9
Subtract domestic and industrial use	9.1	
		96.7
Add gross accruals from:		
Driekoppies to Lebombo	13.3	
Mananga to Tonga	10.3	
		120.3
Add water used from storage in the weirs (assumed)	0.0	
Irrigation water use in 2008/09*		**120.3**

***Remaining Irrigation Water downstream of Mananga and Driekoppies Dam on September 30:**

- South Africa: _____ = 99.7 Mm^3

Actual booked irrigation water use in 2008/09 _____ = 120.3 Mm^3**

** Expected use which is: 93.4 Mm^3

Actual irrigation use = 54.7% of 220.0 Mm^3/a rationed low assurance water.

*** Overuse was allowed as a result of available banked water.

KOBWA\ Water recon monthly summaries -September 2008 pg-1

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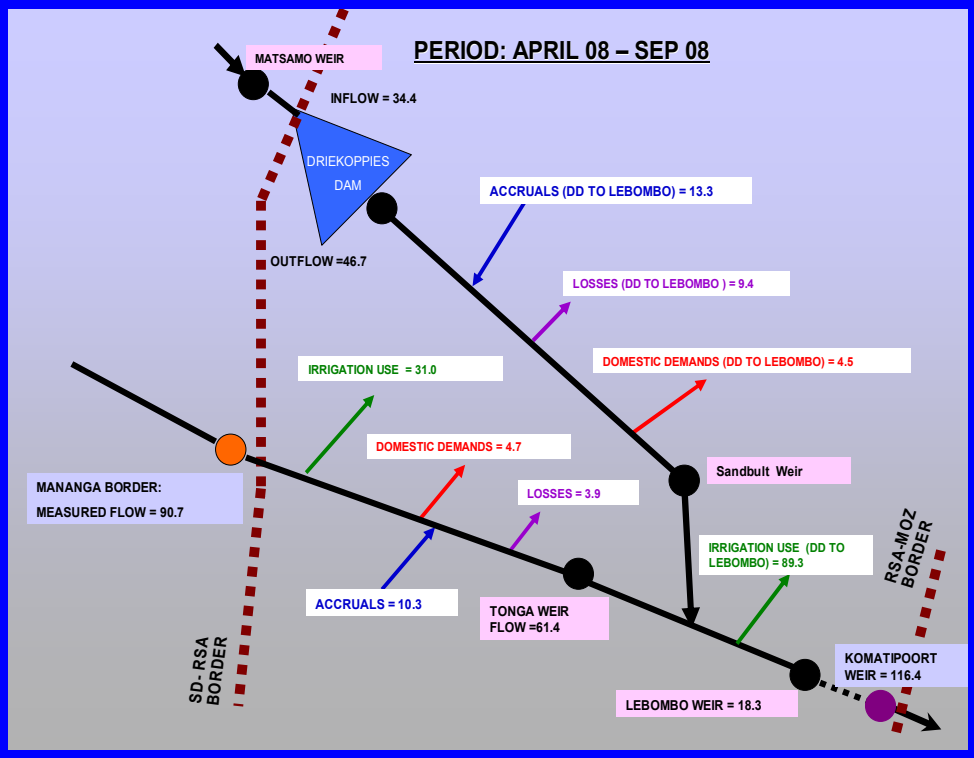

WATER USE DOWNSTREAM OF MAGUGA DAM IN SWAZILAND
September 2008

	AMOUNT (million m³)	BALANCE (million m³)
Releases from Maguga Dam and Hydropower weir	150.8	**150.8**
Subtract stored volume in Hydropower Regulating Weir on September 30	0.3	150.5
Subtract riverine losses	5.4	**145.1**
Subtract domestic and industrial use	8.7	**136.4**
Add gross accruals from Maguga to Mananga	47.0	**183.4**
Subtract flow at Mananga Border	90.7	**92.7**
Irrigation water use in 2008/09*		

***Remaining Irrigation Water Downstream of Maguga Dam on September 30:**
- Swaziland: = 99.8 Mm^3

Actual booked irrigation water use in 2007/08 = 92.7 Mm^3**

** Expected use which is: 75.7 Mm^3

Actual irrigation use = 48.1% of 192.5 Mm^3/a rationed low assurance water.

*** Overuse was allowed as a result of available banked water.

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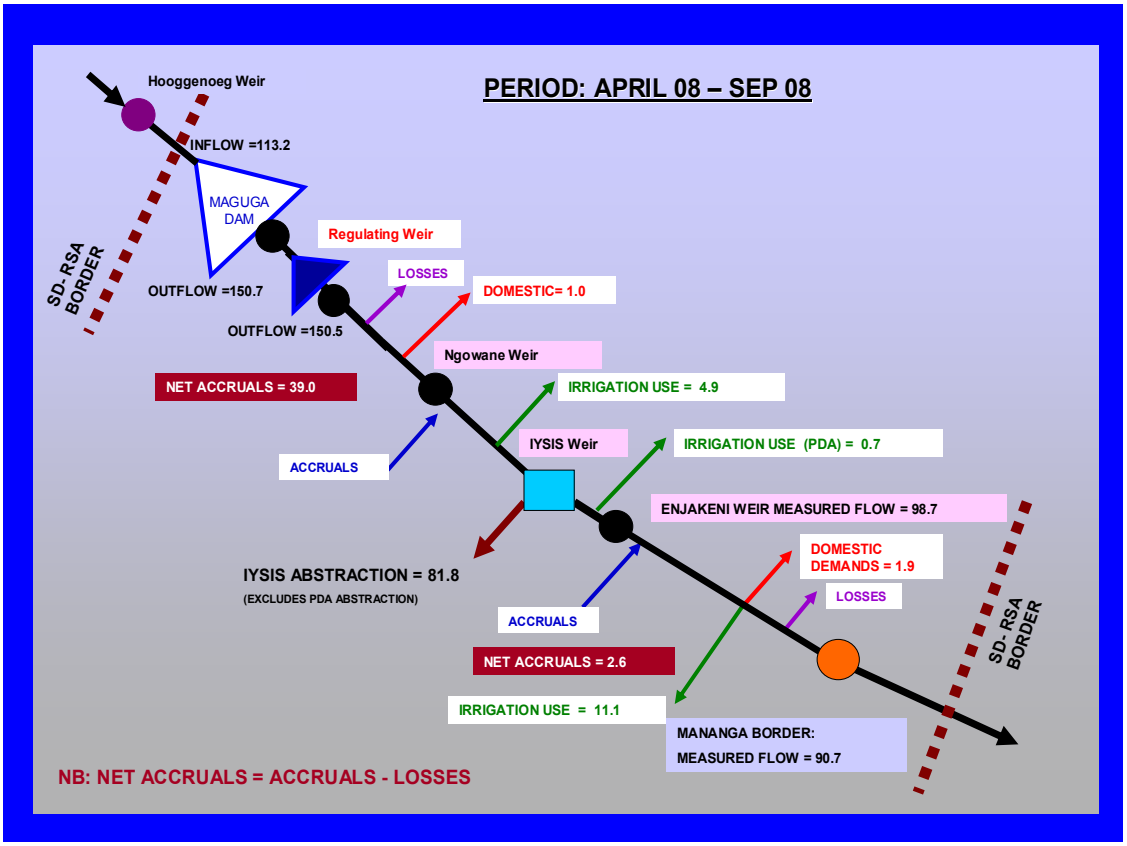

MAGUGA DAM STORAGE RECONCILIATION ON 1 October 2008

	AMOUNT (million m³)	BALANCE (million m³)
Total stored volume at start of water year	301.2	
Add Inflow for water year	113.2	
Add stored volume in Hydropower Regulating Weir on September 30	0.3	
		414.8
Subtract:		
Net evaporation losses	3.9	
Releases from storage	150.8	
Total stored volume at end of month	**154.7**	**260.1**
Subtract water in Reserve:		
Brought forward from 2007/08	0.9	
Cumulative for 2008/09	0.0	
	0.9	**259.1**
Subtract commitments from storage from 2007/08 water year to:		
South Africa	9.8	
Swaziland	77.7	
	87.5	**171.6**
Add water use above average use and/or from banking for 2008/09:		
South Africa along Middle and part of Lower Komati*	7.6	
Swaziland	17.0	
	24.6	**196.2**
Reference Storage Available in Maguga Dam from 1 October 2008		**196.2**

Notes:

* Overuse and/or use from banking of 19.3 Mm^3 is added to Driekoppies Dam

KOBWA\ Water recon monthly summaries -September 2008 pg-3

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DRIEKOPPIES DAM STORAGE RECONCILIATION ON 1 October 2008

	AMOUNT (million m³)	BALANCE (million m³)
Total stored volume at start of water year	154.3	
Add Inflow for water year	34.4	
		188.7
Subtract:		
Net evaporation losses	6.9	
Releases from dam	46.7	
Total stored volume at end of month		**135.1**
Subtract share of water supplied for Mozambique from Komati river that was used by South Africa but replaced from Crocodile River:		
Brought forward from 2007/08	9.9	
Cumulative for 2008/09	4.3	
	14.2	**120.9**
Subtract water in Reserve:		
Brought forward from 2007/08	1.9	
Cumulative for 2008/09	0.0	
	2.0	**119.0**
Subtract commitments from storage from 2007/08 water year to South Africa	24.9	
		94.1
Add water use above average use and/or from banking for 2008/09 along Lomati and Lower Komati*	19.3	
Reference Storage Available in Driekoppies Dam on 1 October 2008		**113.4**

*Balance of South African overuse not held in Maguga

KOBWA\ Water recon monthly summaries -September 2008 pg-4

HIGH ASSURANCE WATER DEMAND DOWNSTREAM OF DRIEKOPPIES DAM AND MANANGA IN SOUTH AFRICA
September 2008

	Lomati	Middle Komati	Lower Komati	Total
Non- rationed High Assurance Annual Allocation	8.6	9.3	0.3	18.2
Cumulative demand in 2008/09	4.3	4.7	0.2	9.1
Remaining High Assurance water downstream of Mananga and Driekoppies Dam on September 30	4.3	4.6	0.1	9.1

NB: Quantities in million m^3

HIGH ASSURANCE WATER DEMAND DOWNSTREAM OF MAGUGA DAM IN SWAZILAND
September 2008

	Maguga to IYSIS	IYSIS	IYSIS to Mananga	Total
Non- rationed High Assurance Annual Allocation	1.9	11.8	3.8	17.5
Cumulative demand in 2008/09	0.9	5.9	1.9	8.7
Remaining High Assurance water downstream of Maguga Dam on September 30	1.0	5.9	1.9	8.8

NB: Quantities in million m^3

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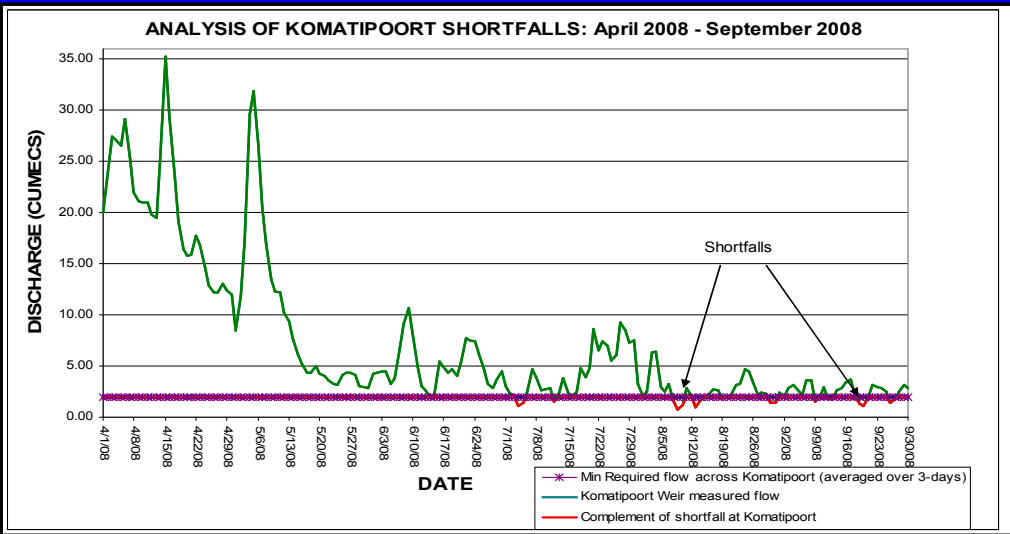
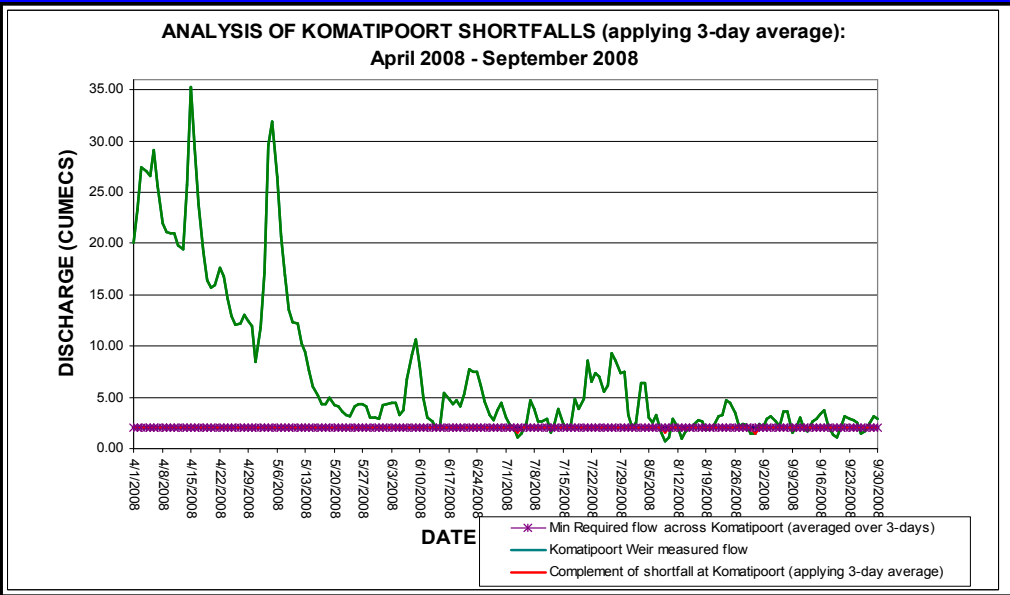


Total No. of days below minimum requirement	22
Total No. of days above minimum requirement	161
Total No. of days for period of analysis	183
Expected minimum flow for period (Mm^3)	31.6
Measured flow across Komatipoort Weir for period (Mm^3)	116.4
Komatipoort shortfalls during period of analysis (Mm^3)	0.9



Total No. of days below minimum requirement	5
Total No. of days above minimum requirement	178
Total No. of days for period of analysis	183
Expected minimum flow for period (Mm^3)	31.6
Measured flow across Komatipoort Weir for period (Mm^3)	116.4
Komatipoort shortfalls during period of analysis (Mm^3)	0.1

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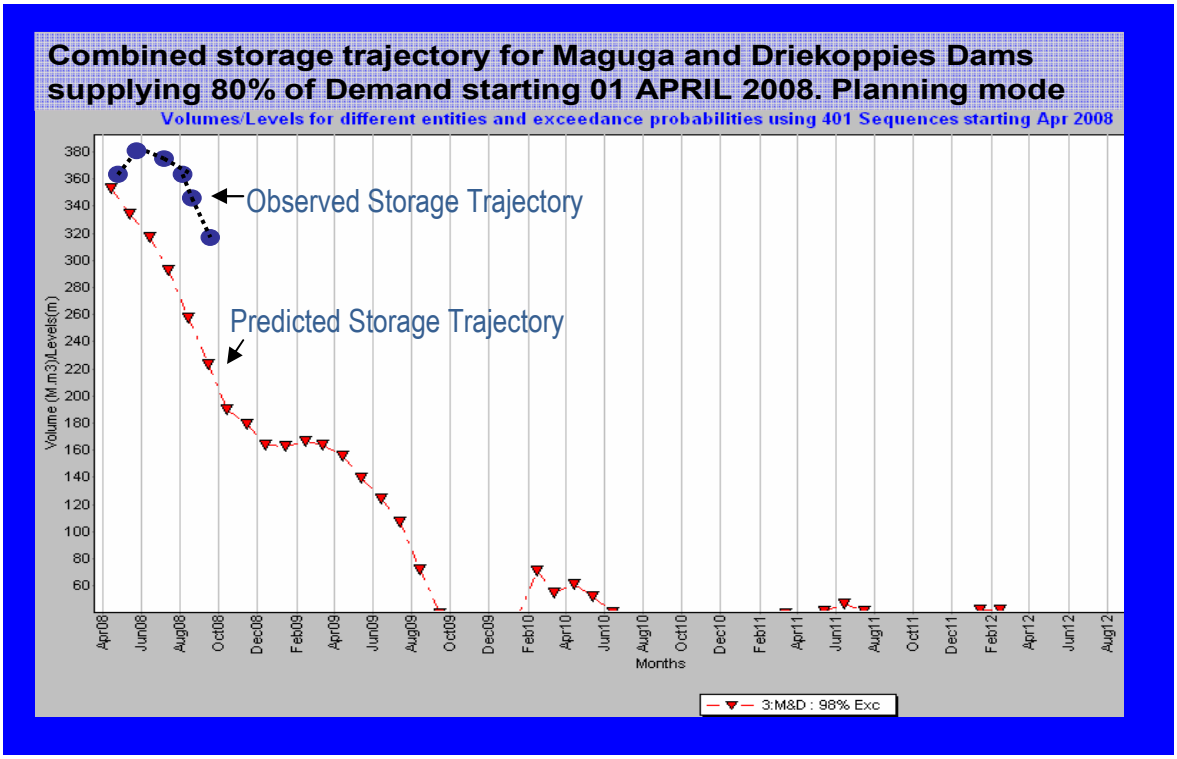

Recommendations & Decisions Taken

1. The meeting concurred that the current rationing status be maintained and the situation closely monitored.

Information Exchange & Drought Issues

DWAF & ICMA

The meeting was advised of the following:

- SEB informed the meeting that the routine maintenance of the diaphragm valves at the Maguga regulating weir was now complete.
- KOBWA informed the meeting that the FDS consultant had submitted the inception report to KOBWA. This would be reviewed by the project steering committee prior to a meeting with Ninham Shand (Pretoria) in December 2008 to discuss progress on the study.
- ICMA informed the meeting that the Terms of Reference for the groundwater project were developed. These would be included in the FDS study as a Variation Order. Further funding for the project is still being sought.
- MW/RSSC enquired about the DWAF's initiative of '1 million trees project' and its possible impact on the water resources of the Komati Basin. KOBWA informed the meeting that the Komati Treaty stipulated the maximum allowable afforestation limit. ICMA informed the meeting that the DWAF-Water Resource Planning Directorate models indicate that the Komati and Crocodile River Basins cannot manage additional afforestation than the allowable maximum, in terms of the existing treaties.

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Any Other Business

None.

Closure

The KJOF meetings are scheduled as follows:

- 20th November 2008 Driekoppies Dam Boardroom
- 18th December 2008 Driekoppies Dam Boardroom

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