



**water affairs**

Department:  
Water Affairs  
**REPUBLIC OF SOUTH AFRICA**

**Directorate: National Water Resource Planning**

## **CROCODILE WEST WATER SUPPLY SYSTEM**

### **Minutes of the second Strategy Steering Committee (SSC) for the Implementation and Maintenance of the Reconciliation Strategy for the Crocodile West Water Supply System**

**Thursday, 24 February 2011, Indlovu Conference Room, BKS, Pretoria**

	Notes / Actions
<p><b>1 WELCOME AND INTRODUCTION OF MEMBERS</b></p> <p>Mr Peter van Niekerk from the Department of Water Affairs (DWA) welcomed everyone at the second Strategy Steering Committee Meeting. All attendants introduced themselves.</p> <p><b>2 ATTENDANCE AND APOLOGIES</b></p> <p>a) <b>Appendix 1</b> to the minutes is an attendance register of all who have attended.</p> <p>b) Apologies received:</p> <ul style="list-style-type: none"> <li>q Ms Marie Brisley and MsThapelo Machaba, DWA North West.</li> <li>q Mr Andries Meyer and Mr Farai Chamisa, Sasol.</li> <li>q Mr Boeta du Toit, Agri SA North West.</li> <li>q Mr George Fritz, Makoppa Irrigation Board.</li> <li>q Mr Anesh Surendra, Eskom.</li> <li>q Mr Francois Olivier, Ekurhuleni Metro.</li> <li>q Mr Roland van Tonder, Crocodile West Irrigation Board.</li> <li>q Ms Lerato Bapela, DWA Water Resource Planning Systems.</li> <li>q Dr Beason Mwaka, DWA Water Resource Planning Systems.</li> <li>q Mr Gustav de Villiers, Madibeng Local Municipality.</li> <li>q Mr Alson Matukane and Ms Allison Hernandez-Macdonaldo, DWA LimpopoMr Puleng Mofokeng and Ms Mary-Jean Gabriel, Department of Agriculture, Forestry and Fisheries.</li> </ul> <p><b>3 ACCEPTANCE OF AGENDA</b></p> <p>The draft agenda, which was table at the meeting and circulated to all invitees prior to the meeting was accepted.</p>	<p><b>Appendix 1 – attendance register</b></p>

#### 4 MINUTES OF THE PREVIOUS MEETING

##### 4.1 Approval of the Minutes

The minutes of the previous meeting held on 29 July 2010 at Mount Amanzi, Hartbeespoort, was accepted as a true reflection of the meeting.

#### 5 MATTERS ARISING FROM SSC NO 1 (29 July 2010)

##### 5.1 Discussion on Operational Model and Forum Progress Report - Item 6.3 of previous minutes:

Ms Ntuli reported that the Professional Services Provider (PSP) to undertake the Crocodile West Annual Operating Analysis was appointed and an initiation meeting of DWA and the appointed team will take place on 1 March 2011. Operating rules will be developed for main dams in the catchment namely Hartbeespoort, Roodekopjes, Roodeplaat, Klipvoor and Vaalkop dams. A separate study is being undertaken for the stand alone dams such as the Koster and Bospoort dams. A System Operating Forum (SOF) will be established to discuss the operating rules. Feedback on this project will be provided to the team and at the next SSC meeting.

DWA to provide feedback at the next meeting

##### 5.2 Report back from municipalities on Water Conservation and Water Demand Management (WC/WDM) - Item 6.5 of previous minutes, last bullet before Item 7:

Mr Pieter van Rooyen reported back on work done by Directorate Water User Efficiency under the direction of Paul Herbst. Municipalities were requested to provide feedback on the WC/WDM activities at the next meeting. In April 2011 municipalities will be providing feedback at the Vaal River SSC Meeting. The information relevant to the Crocodile West River catchment will be provided to the members of the Crocodile West SSC.

Municipalities to provide feedback on their WC/WDM activities at the next meeting. The Study Team will send a template to all relevant municipalities one month before the next SSC meeting to guide them in their report back to the next SSC meeting.

The Lephalale Municipality should be invited to attend the next SSC Meetings.

Study Team

### 5.3 Climate change scenarios have to be formulated for inclusion in the updated Reconciliation Strategy - Item 7 of previous minutes, second bullet:

Ms Mgquba reported that a Terms of Reference will be drafted by DWA shortly to appoint a PSP to assist the DWA to formulate a policy on the potential of climate change on all CMAs. Once the report has been completed the contents can be used for inclusion into the Reconciliation Strategy. In the meantime DWA takes cognisance of the climate change models currently available in all their planning scenarios. Mr Johan van Rooyen reported that DWA is looking at the whole country. A decline in water availability due to climate change is expected in the Western Cape and different scenarios are analysed. For the rest of the country there is not clear indication if the available water will increase or decrease, but a higher variability in rainfall and runoff is expected. If better information on the impact of climate change in this study area becomes available, then different scenarios can be analysed. He concluded that at this stage no specific climate change scenarios will be analysed as part of this study.

## 6 STATUS AND RECAP SINCE THE FIRST MEETING

Mr Johan van Rooyen reported that since the previous meeting which was held in July 2010 much progress was made in terms of the process to revise the Reconciliation Strategy. Progress will be reported on during the meeting. Some significant changes in the original scenarios became apparent which will have to be discussed.

## 7 DRAFT TERMS OF REFERENCE (TOR) AND MEMBERSHIP OF THE SSC

a) The Draft Terms of Reference was accepted by all members, with the following recommendations:

- q The content should not include the Strategy itself. The Terms of Reference should be revised to be more generic. Study Team
- q All municipalities in the Crocodile West Water Supply System should be invited to become members of the SSC. In addition it should be ensured that Modimolle, Mookgopong and Lephalale municipalities are included in the invitation list as they already receive water from the Crocodile River or they may possibly be supplied from the system in future. Study Team

b) The ToR will not be discussed at the next SSC Meeting unless a member would like to suggest further changes.

c) The status of the updated ToR should be changed from draft to final, subject to the incorporation of comments received at the meeting. Study Team

## 8 STATUS OF THE MOKOLO-CROCODILE WATER AUGMENTATION PROJECT

### Appendix 2 - presentation

- a) Mr Ockie van den Berg from the DWA presented the background to the Mokolo-Crocodile Water Augmentation Project (MCWAP) as well as progress made thus far. His presentation highlighted the following:
- q Objective of the project which is to plan and implement feasible options to transfer water from the Mokolo River and Crocodile West River to Lephhalale and Steenbokpan without impacting on the water entitlements of existing users.
  - q Water requirements of existing users and anticipated future users.
  - q Changes in water demands and the findings of several planning scenarios.
  - q The sources of water that may be used for the project and the integration of the Vaal, Crocodile and Mokolo catchments.
  - q The project components and the implementation schedule.
- b) A key conclusion from the presentation was the large difference (reduction) in the projected water requirement for the Lephhalale and Steenbokpan areas for which commitments have now been received from the water users (see the graphs for the Scenario 11 and 12 water requirement projections in the presentation slides for details).

#### Discussion:

- c) Mr Johan van Rooyen from DWA said the presentation served as a motivation for the necessity to keep the Crocodile West Reconciliation Strategy updated. Although the final version of the Department of Energy's Integrated Resource Plan (IRP) is still awaited, which would recommend whether further coal fired power plants will be built in future or not, the existence of a coal reserve in the Waterberg area is a fact. The DWA needs to keep its finger on the pulse of proposed developments to ensure alignment of water resource planning with any future developments. The possibility of coal exploration for exporting purposes by mining companies has been mentioned.
- d) Mr Ian Midgley from Eskom reported that Eskom is planning to implement environmentally friendly ("green") projects to generate power. Direction is taken from the Copenhagen Climate Change Summit 2010 resolutions to ensure smaller carbon footprints.
- e) Mr Francois van der Merwe from DWA requested clarity from Eskom on future project in the Waterberg, which is required to further progress on the authorisation of water use licenses in the study area.
- f) Mr Rens Botha from DWA said the Validation and Verification project to verify existing lawful water use is still on hold and that presentations have been made to the Minister of DWA to obtain money to complete the project. Mr Johan van Rooyen responded to that the verification of existing lawful water use has to continue regardless of Eskom or other developer's plans in the Waterberg area. The SSC should support motivation to accelerate the process to verify and validate existing lawful water use in the Crocodile West River catchment.
- g) Mr Fred van Zyl from DWA said that the Department of Energy stated recently that South Africa has so much coal which should be used. He also mentioned that the Premier of Limpopo said mining will be the top job creation sector, thus he believes that the Waterberg coal reserve will be mined. He suggested that all eventualities should be accommodated in the planning scenarios with a thorough understanding of the proposed risks.

NWRP to liaise internally in DWA to motivate for the validation and verification of existing lawful water use

PSP to obtain the IRDP and incorporate into scenario and strategy formulation.

## **9 FEEDBACK ON THE IMPLEMENTATION OF THE MAIN RECOMMENDATIONS OF THE STRATEGY**

Presentations were made to provide feedback on the main recommendations of the Reconciliation Strategy. A summary of each presentation and the associated discussion follows:

### **9.1 STATUS OF WATER RESOURCE QUALITY - with focus on the Harties Metsi a Me project**

Mr Petrus Venter from the DWA gave a presentation on the Harties Metsi a Me Project. The project also known as the Hartbeespoort Dam Integrated Biological Remediation Programme's main objective is to restore the dam from its hypertrophic state whilst enhancing growth, development, work creation and information sharing in the catchment. Several projects are underway that determines, optimises and manages the physical and biological conditions in the dam to ensure reduction in algae (blue-green), hyacinth and undesired fish biomass.

Each member received pamphlets and a DVD on the project. The presentation made is included on the DVD.

#### **Discussion:**

- a) Mr Jan Viljoen from the Transvaalse Landbou Unie (TLU) congratulated Mr Venter on the good work done on the Hartbeespoort Dam.

### **9.2 WATER QUALITY MODEL PROGRESS**

- a) Mr Trevor Coleman from Golder Associates gave a presentation on the progress made with the development of the water quality model for measuring salinity (TDS). In his presentation he highlighted the following:

- q What is the Water Quality TDS model and its objectives?
- q Steps in applying the Water Quality TDS Model.

#### **Discussion:**

- b) Mr Fred van Zyl from DWA asked whether the model caters for the diffuse pollution perspective. Mr Coleman responded that the model is being calibrated to include that.
- c) Ms Lebo Mosoa from DWA suggested that the Water Quality Objectives (in-stream limits) be factored in the model to identify if the objectives are achievable under certain scenarios. The comparison will show what the situation is in terms of water quality.
- d) Mr Johan van Rooyen from DWA said that the study's objective is not to focus on water quality although there are serious water quality challenges in the Crocodile West Water Supply System. The modelling of TDS (salinity) will inform the Waste Discharge Charge system and provide indications of salinity based on the recommended strategy. The modelling for TDS will inform the status of water quality in the system for the planning scenarios. The DWA is conducting several studies on the water quality in the system as was reported by Lebo Mosoa at the first SSC meeting and Mr Petrus Venter at this meeting.

**Appendix 3 –  
presentation**

**Appendix 4 -  
presentation**

### 9.3 REVISED WATER BALANCE

- a) Mr Jonathan Schroder from BKS presented the revised water balance for the Crocodile West River System. In his presentation he highlighted the following:
- q An overview of the Crocodile West River System and the existing and proposed water transfers from the Vaal catchment and to the Mokolo catchment.
  - q Water requirements – detailing requirements from an urban, mining, irrigation and rural perspective.
  - q Water sources available in the system.
  - q Return flows and an analysis per demand centre.
  - q What is the Water Resource Planning Model and how is it applied in the study.
  - q Results on the water balance.
- b) The findings from the initial analysis indicate there is excess water currently in the system and depending on the transfer needs to Lephalale either further excess or shortfalls will occur in future. It was highlighted that the supply strategy is for any shortfall in the Crocodile West River System to be supplied through additional transfers from the Vaal River System. It was noted that further refinements will be made to the simulation analysis with respect to the specific location and timing (projection) of the excess water. Particular attentions will be given to the determination of the excess at the locations where there are licence applications for water abstraction from Magalies Water and Tshwane Metro.

#### Discussion:

- c) Mr Francois van der Merwe from DWA asked whether the model includes surface run-off from paved (impervious) areas. Mr Schroder confirmed that increase in runoff from paved areas is included in the model along with the runoff from the natural catchments.
- d) Mr Jan Viljoen from the TLU said that information presented shows a surplus of water, while in 2005 the agricultural sector was restricted in their water use. He asked how that is possible? He commented that the model seems a very useful tool, however, only if it reflects the true situation. Mr Johan van Rooyen from DWA responded that the Study Team will investigate this aspect as experienced in 2005 in more detail and assess whether the model reflects a similar situation as was experienced.
- e) Mr Derek Hazelton, representing Madibeng Local Municipality through the Masimbambane DWA project, requested that the Study Team contact Madibeng Local Municipality and Magalies Water to ensure that the numbers with regards to urban water requirements are indeed correct.
- f) Mr Fred van Zyl from DWA said that it is critical that municipalities and DWA work together to determine correct current and future projected water requirements. He said that DWA is working with municipalities, but that SSC members represented at the meeting should convey in their organisations the importance of proper planning as it has an influence on the entire Crocodile West River system.
- g) Mr Ockie van den Berg from DWA said that if a surplus is experienced in the Crocodile West River System as a whole, it is not to say that in localised areas a water deficit was not experienced. Mr Johan van Rooyen said the discussions note the importance of the System Operating Forum (SOF) where representative of all water users can meet and discuss the operating rules of the system.

**Appendix 5 -  
presentation**

Study Team to  
investigate

Study Team to  
contact Madibeng  
and Maglies Water

- h) Mr Johan van Rooyen from DWA said that the results of the water requirement scenarios reported on (see presentation slides) show the vulnerability in the system – any major development could change the availability of water at any time. He added that future planning and management of the resource is critical to ensure that there will be sufficient water for all sectors. He added that the surplus water should be seen as a strategic resource which could also be considered in future for transfers to other catchments.

#### 9.4 RECONCILIATION STRATEGY REVISION

- a) Mr Pieter van Rooyen from WRP Consulting Engineers presented the proposed steps in the revision of the Crocodile West River System Reconciliation Strategy. In his presentation he highlighted the following:

- q Status of the current Reconciliation Strategy.
- q The specific steps to follow to update the water balance and the Strategy.
- q Factors to consider in updating the Strategy.
- q Recommendations.

There are internal discussions in the Department and consideration of developing a Resource Water Quality Action and Implementation Plan / Water Management Plan for the Crocodile West River system. Lebo Mosoa to discuss this matter with the Regional Offices.

#### Discussion:

- b) Mr Fanie Vogel from Aurecon said that water requirements in the Waterberg area will grow – the coalfield will be developed, it is just a matter of when. He recommended that water for future developments should be saved in the system and all water should not be transferred.
- c) Mr Jan Viljoen from TLU said that the DWA should contact the Department of Mineral Resources (DMR) as they should have a good indication of what is being planned in the area. He said that he receives many notices to become involved in Environmental Impact Assessments in the Waterberg area. Mr Johan van Rooyen suggested that the DMR be invited to become a member of the SSC.
- d) Mr Johan van Rooyen from DWA said that the presentations showed that some surplus water is available in the system. Only when the Integrated Resource Plan of the Department of Energy is completed will there be a clear way forward as to whether more power stations are to be built in the Waterberg area. The water surplus should be kept as a strategic resource. Only when the way forward is clear can water transfers to other catchments be considered. He cautioned that the analyses are showing a surplus of about 60 million m<sup>3</sup> in 2010, not enough water for users to relax about. He urged that municipalities will have to ensure active WC/WDM, and that the verification and validation of lawful water use be done.
- e) Mr Bernie Badenhorst from DWA said that the SSC will have to communicate to the Limpopo Government that development in the Waterberg area may not be as rapid as originally anticipated. Mr Peter van Niekerk of DWA responded that DWA can only communicate to the Limpopo Government on its mandate - water. He added that the Premier's Office is a member of the SSC.
- f) Mr Derek Hazelton representing Madibeng Local Municipality said that municipalities must run sustainable entities. They make their money selling services and water. WC/WDM is in their own interest to maintain their stability.

#### 10 COMMUNICATION

- a) Mr Johan van Rooyen from DWA discussed proposed actions to ensure the flow of communication from this meeting.

Appendix 6 -  
presentation

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Study Team to  
invite the DMR to  
the next SSC

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| b) | Members of the SSC (those attending the meeting) have to report back to the organisations that they represent at the meeting. He emphasised that the discussions at the meeting need to be communicated, otherwise the purpose of the meeting will not be met. He requested members to prepare feedback for the next meeting on how they are communicating the information discussed at the meeting to their organisations. | All members of the SSC to provide feedback at the next SSC meeting on how they communicate to their organisations |
| c) | The progress report which was distributed in January 2011 will be updated with the latest information discussed at the meeting. This report will be sent to all SSC members for further communication to their organisations.   | Study Team  |
| d) | A press release will be compiled in the next five working days by the Study Team. The draft press release will be sent to DWA for approval from where it will be sent to all members for their review and input. After three weeks from the date of the meeting, a press release will be ready for distribution to the media. SSC members may also use the release to further communication in their organisations.         | Study Team  |
| e) | A newsletter will be compiled and distributed to the larger group of stakeholders in the Crocodile West River System towards the beginning of September 2011. The contents of the newsletter will include summarised abstracts from revised Reconciliation Strategy Report.   | Study Team  |

**Discussion:**

- f) Mr Jan Viljoen from the TLU asked for factual information in the progress report. He said that he would like detailed information on what the different Lephalale water requirements scenarios, reported on at the meeting, entail.
- g) Mr Derek Hazelton, representing Madibeng Local Municipality, said that Madibeng Municipality would like to have more information published on the effect on water quality after the implementation of the Harties Metsi A Me project.

**11 DISCUSSION AND COMMENTS**

- a) Mr Paul Herbst from DWA said that he will assist the Study Team with latest available information on WC/WDM at the municipalities in the study area.
- b) Mr Fred van Zyl from DWA said that if WC/WDM is not successfully implemented at municipal level, more return flows will enter the system. He emphasized the need for municipalities to operate as sustainable units in relation to the implementation of WC/WDM

**12 WAY FORWARD**

From the presentation made by Mr Pieter van Rooyen, the following was agreed as the way forward:

- |   |   |            |
|---|---|------------|
| q | Collate the revised project information.  | Study Team |
| q | Incorporate the calibrated salinity modules into the Water Resource Planning Model. | Study Team |
| q | Apply the Water Resource Planning Model for projection scenarios.                   | Study Team |
| q | Compile the revised Reconciliation Strategy Report.                                 | Study Team |
| q | Report back on the above at the next SSC meeting.                                   | Study Team |



**13 DATE OF NEXT MEETING AND CLOSURE**

- a) All members were thanked for their participation.
- b) The next meeting is scheduled for Thursday, 29 September 2011.
- c) The meeting was closed at 13:00.

All