



Directorate: National Water Resources Planning

**OLIFANTS RIVER WATER SUPPLY SYSTEM:
Strategy Steering Committee for the Implementation of the
Reconciliation Strategy**

MINUTES FOR SSC MEETING NO. 1

Date and Time: 09:00 – 13:00, 7 March 2013
Venue: Forever Resorts Loskop Dam

		ACTION						
1	<p>WELCOME – P. Van Niekerk</p> <p>Dr. P. van Niekerk (DWA) welcomed everyone and provided the purpose of the Strategy and the objectives of the SSC meeting. He introduced both the Department of Water Affairs (DWA) and Professional Service Provider (PSP) team members.</p>							
2	<p>ATTENDANCE AND APOLOGIES – P. van Niekerk</p>							
2.1	<p>Attendance</p> <p>The attendance register for the meeting is attached as Annexure 1. All attendees were provided with an opportunity to introduce themselves and the organisation they represent.</p>							
2.2	<p>Apologies</p> <p>It was noted that the following people apologised for not attending the meeting (apologies submitted after indicating attendance):</p> <table><tr><td>O. van den Berg</td><td>DWA Head Office : Options Analysis</td></tr><tr><td>M. Komape</td><td>DWA Limpopo Regional Office: Water Use and Regulation</td></tr><tr><td>G. Cilliers</td><td>DWA: Resource Quality Services</td></tr></table>	O. van den Berg	DWA Head Office : Options Analysis	M. Komape	DWA Limpopo Regional Office: Water Use and Regulation	G. Cilliers	DWA: Resource Quality Services	
O. van den Berg	DWA Head Office : Options Analysis							
M. Komape	DWA Limpopo Regional Office: Water Use and Regulation							
G. Cilliers	DWA: Resource Quality Services							
3	<p>ACCEPTANCE OF AGENDA – P. Van Niekerk</p> <p>The agenda was accepted with no additions or alterations.</p>							
4	<p>TERMS OF REFERENCE AND MEMBERSHIP OF THE SSC</p> <p><i>Tendani Nditwani</i>, DWA presented an overview of the SSC Terms of Reference (ToR) and membership. The presentation is provided in Annexure 2. This SSC</p>							

will deliver the 2014/15 revision of the Reconciliation Strategy, with progressive updates to the strategy produced between SSC Meetings. The objectives of the SSC are to implement the Strategy, communicate with stakeholders and to update the Strategy. This meeting aims to establish the SSC and to identify champions to implement the various actions recommended in the Strategy.

The final Terms of Reference (ToR) for the SSC will be available before the next meeting.

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In terms of representation on the SSC – several organisations was invited to be present at the SSC, however, other names identified by the SSC members present at the meeting would be added to the database as the meeting progressed. The complete Stakeholder Database invited to the SSC was provided in the information pack handed out to all attendees.

There were no questions for clarification on the items above.

5 THE OLIFANTS WATER SUPPLY SYSTEM RECONCILIATION STRATEGY

5.1 Overview

Tendani Nditwani (DWA) presented an overview of the Reconciliation Strategy for the Olifants River Water Supply System. The presentation is provided in **Annexure 3**. He further provided the background to the development of the Strategy and highlighted the recommended strategy interventions to ensure a positive water balance in the Olifants Water Supply System for future projected growth scenarios.

5.2 Questions for clarity

Kobie Marais (Rand Water) enquired why the establishment of Catchment Management Agencies (CMA) is delayed?

Tendani Nditwani (DWA) indicated that the process does take time but it is on-going. However the recent decision to reduce the number of WMAs has to first be completed and also needs to be Gazetted.

Johan van Rooyen (DWA) confirmed that all 9 CMAs are to be established within 5 years. The Olifants CMA has been set as a priority but the process has been put on hold due to the reduction in the number of water management areas.

Anesh Surendra (Eskom) posed the question if the Reserve has been determined or if the process is on-going?

Tendani Nditwani (DWA) responded that the Reserve has been determined and the Classification has been done, but the setting of the Resource Quality Objectives (RQO's) is still on-going. The Reserve must still be gazetted once the RQO's have been agreed upon.

Derick du Toit (Award) added that international agreements, the growth of Mozambique's demand as well as LIMCOM does not feature in the Strategy.

Tendani Nditwani (DWA) indicated that international obligations are mentioned in the Reconciliation Strategy reports. According to the SADC revised protocol water management must be done in good faith and SA does ensure that flows go through to Mozambique. An agreement was put in place with Mozambique that if Massingir Dam is built, SA may develop

upstream waters to our discretion, but the Reserve requirements must still be met. With the planning of De Hoop Dam the international obligations were also taken into account. LIMCOM may set new specifications of water that must pass through to Mozambique.

Derick du Toit (AWARD) further indicated that according to the PRIMA Programme, Mozambique is not satisfied with agreement or the modelling of the system. Agreements must be consolidated and regional discussions are required, with declaration of projects on both sides.

Peter van Niekerk (DWA) advised that only measures with a significant impact must be declared. Significant impoundments should be declared upfront and if it impacts on Mozambique, they must raise this concern.

Johan van Rooyen (DWA) confirmed that the Massingir agreement is in place and that it can't just be changed. The Strategy does not propose new dams, just better management of the system.

Freek Venter (KNP) enquired if water quality has an impact on KNP in terms of Reserve determination scenarios, will dilution be considered? This possibility must be included in future scenarios.

Johan van Rooyen (DWA) responded that water is too scarce to dilute. Source solutions must be found, e.g. reuse of water in upper catchment or treatment of mine water rather than dilution. Municipalities' return flow is also a problem that should be addressed rather than diluting poor water quality. The Water Quality Strategy for the Olifants will try and address this and will be driven by *Pieter Viljoen (DWA)*.

Mothusi Tholo (Thembisile Hani LM) enquired if the cost options information generated for the Strategy can be shared with the Municipalities?

Johan van Rooyen (DWA) indicated the analysis done had a broad focus and the measures are size dependant. Reuse of water is very important and should be a focus area.

Tendani Nditwani (DWA) explained that two types of Reconciliation Strategies provided input to this Water Supply System Strategy: the large supply systems had their own Strategy and the smaller towns were included in a so-called "All towns" Strategy which includes places such as Hendrina. Detailed options for these smaller towns should be obtained from the All Towns Strategies.

5.3

Strategy actions and interventions: Assigning responsible

Tendani Nditwani (DWA) presented an overview of the proposed Reconciliation Strategy interventions and typical target amounts to be saved by reducing water requirements and typical target increases in water resource yields. The presentation is provided in **Annexure 4**. He further indicated the need to assign champions that would be taking responsibility for the proposed interventions which are covered in Item 5.3 of the minutes. He emphasised that feedback on progress with the interventions will typically be provided by the respective champions at each SSC Meeting.

A brief summary of intervention measures was provided by *Tendani Nditwani (DWA)*:

- The Malmani Dolomite compartment has been identified and part of the

groundwater resources that can be exploited. This measure should be easy to implement.

- Treatment of mine water could yield more than 17% of the total contribution to the projected water balance. It however depends on the mines willingness to clean up this water to the required water quality standard.
- Water Conservation / Water Demand Management (WC/WDM) in Urban sector is aimed at reducing wastage of all towns how is getting supplied by the system. Four billion Rand has been reserved in the national budget for water use efficiency and reticulation systems. These funds should be applied for and included in the new municipal budgets. The team will endeavour to go to the municipalities to communicate the needs of the Strategy and what is expected from them.
- Irrigation – The concern in increases water use efficiency in irrigation is whether this water will be used for expansion of irrigation or will the water be returned to system as required by the Strategy.
- Reuse – Polokwane is already very efficient when it comes to reuse. The current infrastructure problems should be dealt with before future re-use can be planned.
- Invasive and Alien Plants (IAPs) – this aims to increase water that ends up in system, i.e. increase the yield. Examples of IAPs are black wattle and others.
- Eradicating unlawful use – DWA is accelerating the area upstream of De Hoop Dam in terms of priority.
- WC/WDM mining – 100% success is possible in terms of this intervention measure.

After a tea break, the meeting was resumed at Item 5.3. of the agenda where the champion organization were identified for each intervention in an interactive session lead by *Tendani Nditwani (DWA)*.

5.3.1 WC/WDM: Urban Domestic and Industries

The first intervention for which feedback was required was WC/WDM in the urban domestic and industrial sector. Feedback on champions for each town identified in the strategy was discussed.

5.3.1a Western Highveld

Mothusi Tholo (Thembisile Hani LM) indicated that this area includes Kungwini, Tshwane and Thembisile Hani (where some water is supplied from the Vaal and some from Olifants). The Sekhukhune DM comprises of Elias Motswaledi, LM, Dr J S Moroka, LM and Ephraim Mogale LM. The Water and Sanitation contact is Mr/Ms Motere.

Kobie Marais, (Rand Water) asked if the Western Highveld area includes both Vaal River and Olifants supply as part of this Strategy?

Tendani Nditwani (DWA) confirmed that this Strategy deals with the Olifants only.

Kobie Marais (Rand Water) further indicated that there are current projects to save water undertaken by Rand Water as a service provider to the DWA Gauteng Region and funded by the Regional Bulk Infrastructure Grant (RBIG).

Pieter van Rooyen (WRP) thanked Mr Marais for this important link and indicated the PSP team will engage with Mr Marais to obtain further information.

PSP
Team

5.3.1b	<p>Emalahleni</p> <p><i>Tendani Nditwani (DWA)</i> stated that the Emalahleni IDP will be consulted for latest figures. The team will also consult the LM municipality and deliver a presentation explaining the goals of the Strategy.</p> <p><i>Kobie Marais (Rand Water)</i> stated that DWA Mpumalanga is funding projects through Rand Water for this area.</p>	PSP Team
5.3.1c	<p>Phalaborwa</p> <p><i>Bernie Badenhorst (DWA)</i> stated that Mopani DM is the water services authority and Lepelle Northern Water is the supplier.</p> <p><i>Francois van der Merwe (DWA)</i> indicated that a 16 million m³ is available for reallocation and is not being used by the mines. This water may come back to the resource.</p> <p><i>Tendani Nditwani (DWA)</i> confirmed that the amount is between 10 – 16 million m³. The Water Use Efficiency team will talk to the municipality and provide feedback at the next meeting.</p>	PSP Team
5.3.1d	<p>Lebowakgomo</p> <p><i>Bernie Badenhorst (DWA)</i> stated that Capricorn DM is the WSA and Lepelle Northern Water is the Water Service Providers.</p>	
5.3.1e	<p>Polokwane</p> <p><i>Bernie Badenhorst (DWA)</i> stated that water reuse in Polokwane has been very successful; however the pipe networks are old resulting in the municipality paying R8 million/month for losses. Budget is required to replace old systems and the municipality has now applied for RBIG funding to do this.</p> <p><i>Jaap Kroon (DWA)</i> indicated that this is a problem in most municipalities, where the budgets are not available for achieving the targeted savings.</p> <p><i>Johan van Rooyen (DWA)</i> responded that National Treasury says that the municipalities have money but they are not assigning priority to these types of problems and therefore not solving it. It is a question of budget allocation. The team must get an understanding of the problem and provide feedback to DWA. There can be huge benefits and quick repayments based on cost savings.</p> <p><i>Bernie Badenhorst (DWA)</i> raised the additional issue of capacity within municipalities.</p> <p><i>Derick du Toit (AWARD)</i> mentioned that in terms of resource issues where funds have to be allocated in terms of water versus roads, water is not considered very important.</p> <p><i>Tendani Nditwani (DWA)</i> responded by indicating that DWA is getting involved in municipalities, however, councillors decide on budgetary allocation.</p>	PSP Team
5.3.1f	<p>Lydenburg</p> <p>No comments were received from the SSC on this town. Thaba Chweu LM and Ehlanzeni DM are responsible for this area.</p>	

5.3.1g	<p>Middelburg</p> <p><i>Bernie Badenhorst (DWA)</i> stated that Steve Tshwete LM (R. Bouwer) and Nkangala DM is responsible for this area.</p> <p><i>Sunil Mungaroo (Shanduka Coal)</i> mentioned that Shanduka Coal is building a 2ML/day water treatment plant to treat to domestic standards. They have applied for a discharge permit. Once an agreement is reached with Steve Tshwete LM this water will be supplied to Middelburg.</p> <p><i>Steve Bouwer (Steve Tshwete LM)</i> indicated that from the 15ML Optimum Coal treatment plant, 3 ML is used directly and 12 ML is released to rivers however the water does not reach Middelburg Dam and is used for irrigation along the river reach.</p>	
5.3.1h	<p>Bronkhorstspuit</p> <p>It was mentioned on the meeting that this town now falls within the City of Tshwane whom will serve as the champion for the WC/WDM interventions.</p>	
5.3.1i	<p>Delmas</p> <p><i>Kobie Marais (Rand Water)</i> stated that Delmas town is part of the Victor Khanye LM and the Nkangala DM. He also stated that Rand Water is supplying a small portion of the requirements but that a pipeline is being built to supply more water from the Vaal: implementation is expected during 2013. This will result in relief to the system.</p> <p><i>Johan van Rooyen (DWA)</i> indicated that this must be included in the water balance.</p> <p><i>Jan Potgieter (Department of Agriculture)</i> enquired whether towns such as Rayton and others are included under Tshwane. The Strategy should also show the other smaller towns' targets.</p> <p><i>Bennie Haasbroek (Hydrosol)</i> replied that there was other towns that was included in the analysis which was not shown individually due to their small amount of savings. He stated that the full list will be included for the next SSC Meeting</p>	PSP Team
5.3.2	<p>WC/WDM: Irrigation</p> <p><i>Pieter de Witt (Limpopo Agriculture)</i> raised the concern that water losses from canals are significant and these must be replaced by pipelines. DWA must be included in these discussions. The Loskop Dam Irrigation Board controls these canals. The Lower Blyde Water Use Association (WUA) should also be included.</p> <p><i>Freek Venter (KNP)</i> indicated that to ensure more efficient irrigation, the WUA must be added.</p>	
5.3.3	<p><i>Eradication of Unlawful Use</i></p> <p>The DWA Mpumalanga and Limpopo regions are involved in this intervention measure. Bronkhorstspuit etc. fall under the Mpumalanga region.</p> <p><i>Derick du Toit (AWARD)</i> noted that the capacity of compliance monitory units are overstretched and a strategy is required to address this. The Water Research Commission (WRC) found problems with enforcement. There is a</p>	

general sense of defiance by users.

Tendani Nditwani (DWA), responded by indicating that DWA has a Policy regarding unlawful use and perpetrators should be dealt with in the same way as all other criminal offenses.

Johan van Rooyen (DWA) noted this valid point, but stressed that this process must start with determining what is unlawful and what is not. This is done through validation and verification processes (V & V) (such as done in the Vaal system). Then DWA must build from there and institutions such as WUA and CMA must play a major role. Illegal use is impacting on downstream users and therefore affects other users.

Francois van der Merwe (DWA) has discussed V & V with Johan van Aswegen and he confirmed that there are currently budget and capacity constraints preventing the process from moving forward.

Jan Potgieter (Department of Agriculture) noted that the Bronkhorstspuit growth figures seem too high and underground water should be used for agriculture.

Pieter van Rooyen (WRP) indicated that the eyes in the area have stopped flowing into water courses. There is a link between abstraction at Delmas and the yield of Bronkhorstspuit Dam. Studies are required to properly quantify this.

5.3.4 WC/WDM: Mining

Members of the SSC suggested that the Chamber of Mines and the JWF has a role to play in managing the WC/WDM in the mining sector.

5.3.5 Increased use of Groundwater Resources

Fanus Fourie (DWA) stated that he is responsible for a support programme for municipalities where groundwater has already been identified as a potential alternative source of water.

Bertus Bierman (Anglo Platinum/JWF) has also started some initiatives in the mining sector.

Derick du Toit (AWARD) raised a concern that municipalities may not have a handle on groundwater, e.g. at Bushbuckridge there is no registration of groundwater use.

Tendani Nditwani (DWA) responded that a study was done to determine the availability of groundwater, but the resource may be even larger than anticipated.

Johan van Rooyen (DWA) emphasised that the catchment is under stress and stakeholders must learn to deal with all issues. The groundwater study was done on a broad-scale but more detail investigation is required to help support decision-making.

Bertus Bierman (Anglo Platinum/JWF) noted that a WRC study in the Steelpoort area found that water is not suitable for use by communities due to Cr6 in the groundwater. Other uses for this water must be identified.

Bernie Badenhorst (DWA) mentioned that eradication of unlawful use is not

	necessarily a problem at Delmas, but the resource is over-allocated. Compulsory licencing might be required and V & V must be done.	
	<i>Jaap Kroon (DWA)</i> noted that the source near Mokopane is already utilised.	
5.3.6	<p><i>Treatment of mine water</i></p> <p><i>Mula Phalannndwa (Eskom)</i> indicated that small mining companies are not being considered, although they also have water quality issues that need to be addressed. The Department of Mineral Resources's (DMR) involvement is also critical.</p> <p><i>Pieter Viljoen (DWA)</i> mentioned the Strategic Water Partnership Network is intensely involve in Acid Mine Drainage (AMD) reuse and should be involved.</p> <p><i>Anesh Surendra (Eskom)</i> enquired whether the water from the existing plant was considered?</p> <p><i>Bennie Haasbroek (Hydrosol)</i> responded that the figure quoted is in addition to current reuse.</p> <p><i>Johan van Rooyen (DWA)</i> added that the figures represent the additional incremental yield.</p> <p><i>Jaap Kroon (DWA)</i> noted that the De Hoop Dam is not storing water yet; therefore the 2011 date is incorrect.</p> <p><i>Bennie Haasbroek (Hydrosol)</i> noted that the graph will be updated to reflect the new estimated time of filling as well as the new date for the implementation of the Reserve.</p>	PSP Team
5.3.7	<p><i>Removal of IAPs</i></p> <p><i>Tendani Nditwani (DWA)</i> stated that the team will communicate the Strategy requirements to the Working for Water programme.</p> <p><i>Johan van Rooyen (DWA)</i> emphasised that DWA must take up this issue with the Department of Environmental Affairs (DEA).</p> <p><i>Sunil Mungaroo (Shanduka Coal)</i> noted that IAP eradication has taken place at their mine.</p>	PSP Team
5.3.8	<p><i>Sewage reuse at Polokwane and Mokopane</i></p> <p><i>Bernie Badenhorst (DWA)</i> noted these municipalities already reuse wastewater and all water is being reused. There has been a negative growth of 0.5% per year at the plant due to water restrictions. At Mokopane, most water is reused, but a bit is still available. Polokwane has already stopped development due to lack of water.</p> <p><i>Pieter Viljoen (DWA)</i> noted that wastewater reuse in the Olifants catchment results in water quality issues. 20 Municipalities do not have Blue Drop status. If treatment is not adequate, reuse will not be feasible. Treasury has allocated money to improve water treatment in the upper Olifants River.</p> <p><i>Bertus Bierman (Anglo Platinum/JWF)</i> indicated that effluent plant management is very important and this aspect is associated with big risks. The mines keep on upgrading the treatment plants just to find that they are neglected or mismanaged.</p>	

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Jaap Kroon (DWA) raised a general comment that the will to implement these intervention measures is very important.

ASSIGNMENT TASKS

Pieter van Rooyen (WRP) provided an overview of the PSP Assignment and planned task. The presentation is provided in **Annexure 4**.

Johan van Rooyen (DWA) emphasised that although the PSP appointment is for three years, the SSC will continue after this period has expired.

Anesh Surendra (Eskom) enquired if water monitoring takes place only through existing information or whether DWA has any plans for additional monitoring devices in terms of quality and flow?

Peter van Niekerk (DWA) responded by indicating that if there are data gaps, these must be filled. DWA relies on users to supply info from their detailed monitoring systems.

Johan van Rooyen (DWA) elaborated by providing the Vaal as an example: water users have obligations to supply information.

Jan Potgieter (National Department of Agriculture) commented that irrigation schemes do not have technology to measure water use and losses. He enquired whether the study will make recommendations on technology interventions?

Pieter van Rooyen (WRP) responded that the specifics are not included in study. Detailed work must happen to identify these interventions. Water Use Associations must support the study.

Francois van der Merwe (DWA) added that the Water Use Efficiency Directorate has a project to measure use and losses using existing technology.

Kobie Marais (Rand Water) asked if a list of water users is available? The study must look at historical information as a baseline and water uses must be monitored against this baseline.

Pieter van Rooyen (WRP) said that the monitoring task is very large, the project team will engage with municipalities to get real water use data. Irrigation supply will be measured by releases from dams. Measurement and monitoring are both important. We must identify and fill the gaps.

7

7.1


LINKAGES WITH OTHER WATER INITIATIVES

Pieter van Rooyen (WRP) listed and described the following studies or initiatives that are relevant to this Strategy.

- Olifants River Classification Study
- Water Use Efficiency Studies
 - Mines (Chamber of Mines)
 - Municipalities (DWA)
 - Agricultural (WMA Plans)
- IAP Removal Initiatives
- Validation and Verification Studies
- Olifants River - Resources Quality Objectives Study
- Development of a WQ Strategy for the Olifants River

	<ul style="list-style-type: none"> • DWA AMD initiatives from SD: WQP • Waste Water Discharge Tariffs • Olifants Water Resources Development Project 	
7.2	<p>The following additional linkages were provided by the SSC Members:</p> <ul style="list-style-type: none"> • Highveld Water Balance Study: Mine Water Balances (Eskom) • WRC Project entitled <i>New Paradigm for SA</i> • US Aid Projects <ul style="list-style-type: none"> - Biodiversity and global warming - IWRM planning – SADC & LIMCOM (Derick du Toit) • City of Tshwane – Water Resource Plan • LIMCOM Monograph development 	
8	<p>COMMUNICATION</p> <p><i>Tendani Nditwani (DWA)</i> stated that communication with the SSC and general public will be in the form of minutes of the SSC meetings, media releases and a newsletter. SSC members will further be required to provide input to progress reports in terms of implementation of the Strategy.</p> <p><i>Amelia Briel (Knight Piesold)</i> also requested suggestions from the SSC in what other languages the newsletters should be developed in.</p>	
9	<p>GENERAL DISCUSSION</p> <p><i>Kobie Marais (Rand Water)</i> suggested that the SSC membership include COGTA and SALGA.</p> <p><i>Tendani Nditwani (DWA)</i> requested that recommendation on the SSC database be forwarded to the team.</p>	PSP Team
10	<p>WAY FORWARD</p> <p><i>Johan van Rooyen (DWA)</i> stated that the PSP team will interact with identified organisations and set up plans and programmes. A Status Report will be compiled after 2 weeks and distributed to the SSC. This will indicate that tasks and responsibilities have been established. A draft press release will also be prepared and circulated to the SSC, before approval by DWA for publishing.</p>	PSP Team
11	<p>DATE OF NEXT MEETING</p> <p>The date for the next SSC was set for 10 October 2013. An electronic calendar planner will be sent out to all SSC Members.</p>	PSP Team
12	<p>CLOSURE</p> <p><i>Dr Van Niekerk (DWA)</i> thanked SSC members for participating in this meeting and indicated that he looks forward to progression to next SSC.</p>	

ANNEXURE 1: ATTENDANCE REGISTER


water affairs
 Department:
 Water Affairs
 REPUBLIC OF SOUTH AFRICA

ATTENDANCE REGISTER

DATE:	Thursday 7 March 2013	TIME:	9:00 am
DETAILS OF MEETING:	Olifants Water Supply System: Strategy Steering Committee (SSC) for the Reconciliation Strategy	VENUE:	Forever Resorts, Loskop Dam

#	Name	Surname	Organisation	Position	Office telephone	Cell phone	Email / Fax number
1	Modikoa	Zebulon	Lepelle N. Water	B.D.O	015 295 1800	082 905 1799	zebulonm@lepelle.co.za
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Olifants River Water Supply System: Strategy Steering Committee (SSC) for the Reconciliation Strategy

Page 1 of 2

Strategy Steering Committee Meeting 1 – Attendance Register

7 March 2013

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16	Martinus	Gouws	Limpopo Department. Agric	Agric. Eng	015 291 1551	082 953 9926	gouwsmi@agric.limpopo.gov.za
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32	Derek	Du Toit	AWARD	Project Manager	015 793 0503	082 944 4774	derrick@award.org.za
33	Jane	Burt	AWARD	Senior Researcher	015 793 0503	082 801 5598	jane@award.org.za
34	Fanus	Fourie	DWA	Scientific Manager	012 336 7307	082 801 5598	fourief@dwa.gov.za
35	Shadreck	Milimi	MP House of Traditional Leadership	AD	013 766 7912	079 692 6813	MSMilimi@mpg.gov.za
36	Freek	Venter	SANPARKS - KNP	GM Consul	013 735 4320	082 908 2687	Freek.venter@sanparks.org
37	Sunil	Mungaroo	Shanduka Coal	Env Manager	013 244 8153	079 495 4930	Sunil.Mungaroo@shandukacoal.com

Olifants River Water Supply System: Strategy Steering Committee (SSC) for the Reconciliation Strategy

Page 2 of 2

ANNEXURE 2: TERMS OF REFERENCE AND MEMBERSHIP OF THE SSC

Olifants River Water Supply System Reconciliation Strategy

Draft Terms of Reference (TOR) for the Study Steering Committee (SSC) (Item 4)

Strategy Steering Committee No. 1
Forever Resorts Loskop Dam, 7 March 2013

Presented by Mr Tendani Nditwani
Chief Water Resource Planner: DWA



Outline

- Introduction
- Objectives of the Strategy Steering Committee (SSC)
- Roles and Responsibilities of SSC members
- Scope of work in maintaining the Reconciliation Strategy
- Arrangements
- Representation

Introduction

- National Water Act (NWA): consultation with “society at large” in development of water resource strategies
- No specific provision in NWA for creating non-statutory forums – but have proved to be valuable in the management of the country’s water resources
- DWA recently completed the development of a Olifants River Water Supply System Reconciliation Strategy
- Strategy Steering Committee: guide the implementation and maintenance of the Reconciliation Strategy

Objectives of the SSC



Objectives of the SSC

- Ensure implementation of recommendations of the Olifants River Water Supply System Reconciliation Strategy
- Update Strategy to ensure that it remains relevant
- Ensure Strategy and recommendations are appropriately communicated

Ensure Implementation

- Monitor implementation of recommendations
- Monitor and address progress with set targets and objectives
- Assess implications of deviations
- Make recommendations on mitigation measures for ongoing reconciliation

Update the Strategy


- Monitor, assess and reconcile requirements and system yields annually
- Update planning scenarios with changes in requirements, supplies and timing of selected interventions
- Adjust recommended interventions, if required
- Review and revise Strategy
- Recommend more detailed studies

Communicate with stakeholders

- Communicate on implementation
- Liaise with Departments involved in producing National and Provincial Strategies and provide input into Provincial Strategies
- Brief relevant municipalities and Water User Associations on imminent decisions
- Inform politicians of process and need for the reconciliation of supply and requirement
- Provide information for relevant institutions' websites

Arrangements

- SSC meetings facilitated and chaired by DWA
- Meetings every 6 months
- PSP team appointed to
 - support implementation of the Strategy, and
 - provide secretariat functions to the SSC
- Workshops with specific stakeholders to discuss specific technical matters, if required. Feedback to the SSC



SSC Terms of Reference

- Draft ToR distributed
- Input required
- To be finalised at next meeting
- Dynamic document



Representation

- SSC database made available
- Must be expanded to include champions for all Strategy actions
- To be discussed under Point 5.3 of Agenda



Thank you

**ANNEXURE 3:
THE OLIFANTS WATER SUPPLY SYSTEM RECONCILIATION STRATEGY – OVERVIEW**

Olifants River Water Supply System Reconciliation Strategy

The Olifants River Water Supply System Reconciliation Strategy: Overview (Item 5.1)

**Strategy Steering Committee No. 1
Forever Resorts Loskop Dam, 7 March 2013**

**Presented by Mr Tendani Nditwani
Chief Water Resource Planner: DWA**



1

NWRS 1 (2004)

- Chapter 2 and Appendix D summarised water resource situation
- Addressed the scarcity of fresh water in SA
- Fresh water is limited and unevenly distributed
- Situation varies from area to area

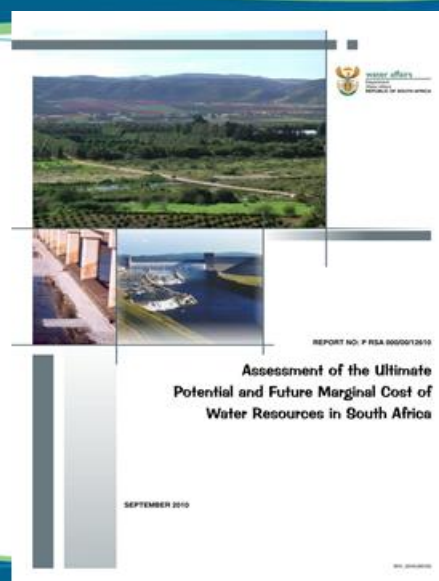
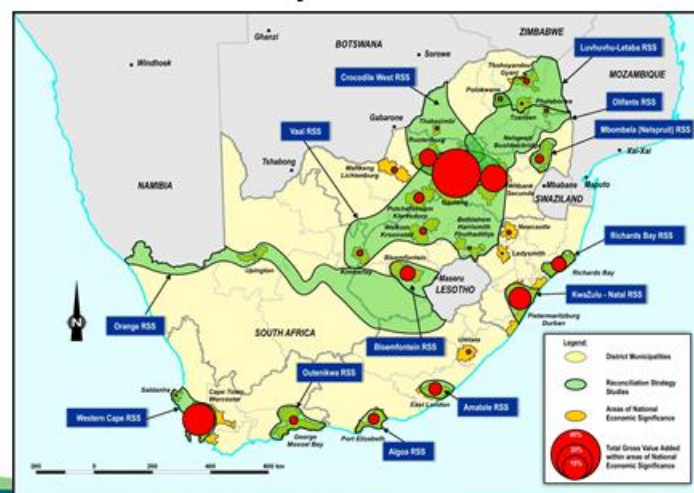
Building on NWRS 1

- NWRS information on broad overview level
- Can for instance not be used to build infrastructure
- More detail required
- ISPs – CMS level, but still not detailed enough
- Reconciliation Strategies
 - Large systems supplying areas of large economic importance
 - Rest of towns covered in “All Town Strategies”

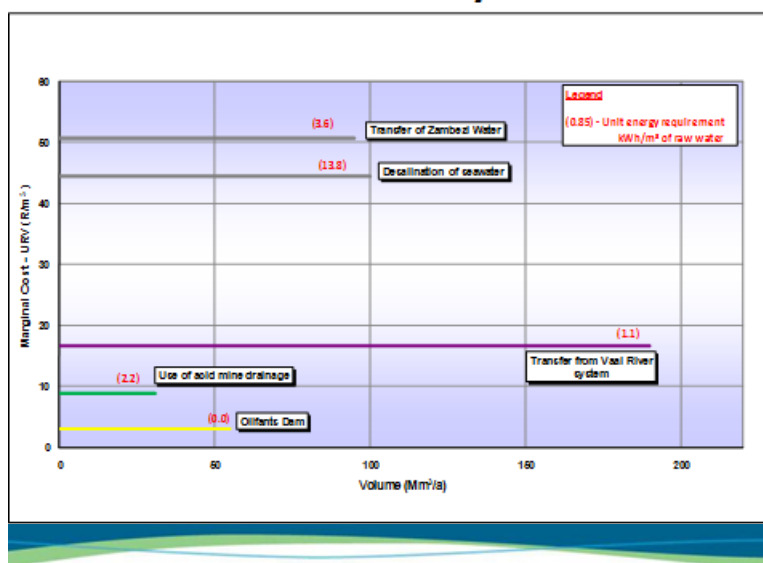
Reconciliation Strategy Studies

- Develop future water requirement scenarios in consultation with users
- Investigate all possible water resources and other interventions
- Investigate all possible methods for reconciling the requirements with the available resources
- Make recommendations for development and implementation of interventions

NSDP: Key demand centres



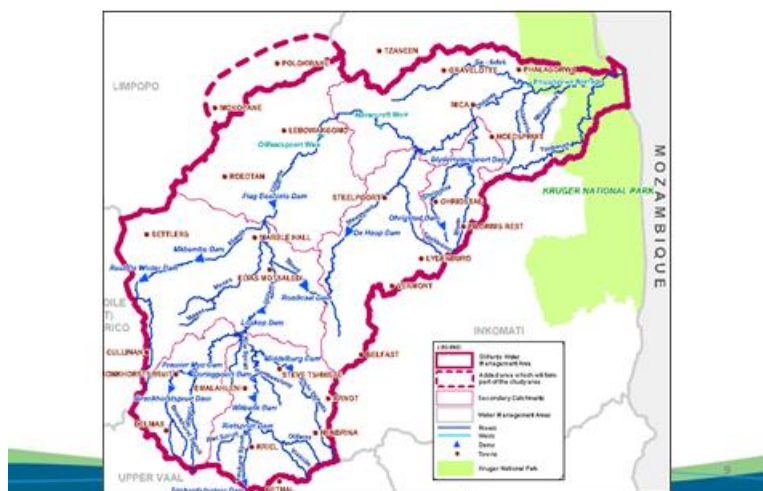
Olifants River system



Reconciliation Strategies: Key messages

- Confirmed broad reconciliation strategies already in the NWRS1
- Added desalination as a strategy
- Olifants strategy (shown later) is fully aligned with these national key strategic messages
- All recommendations are reflected in new NWRS2


Study Area





Objectives of the Olifants Reconciliation Strategy

- To meet legitimate current and future water requirements
- To recommend the most suitable interventions to balance the water requirements and water resources
- To identify responsible institutions and provide target dates for implementation of the strategy



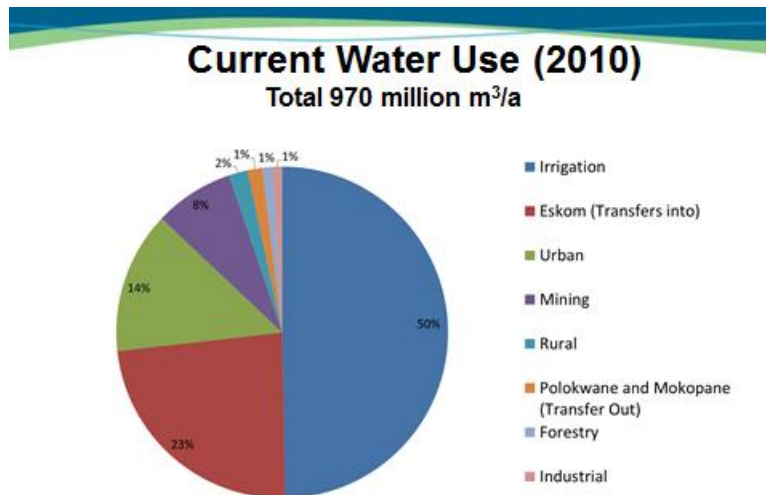
Water Quality

- Number of serious water quality concerns
- The current quality of the water in the catchment is generally acceptable, but not for all users
- The water quality does not affect the availability of the resource (dilution is not required)
- A separate water quality management strategy is required to address the water quality management issues. It is recommended that this study commences as soon as possible.

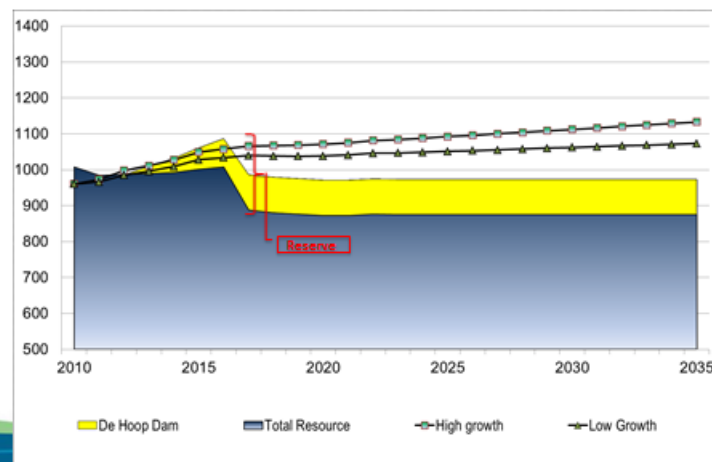


Steering Committee

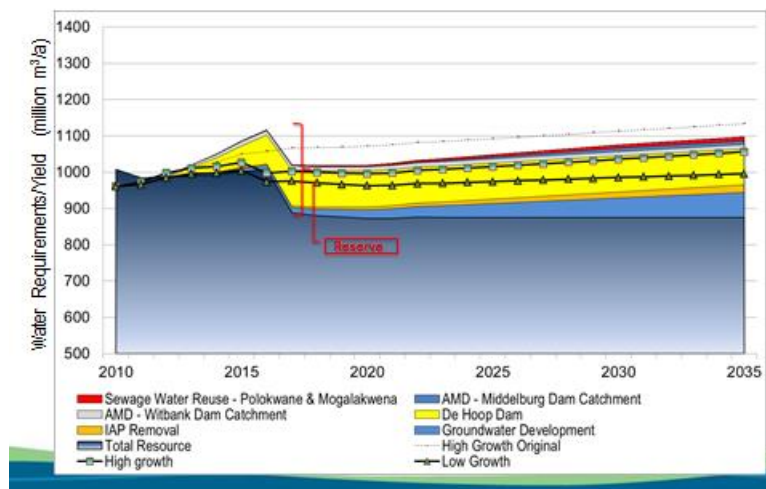
- Strategy developed under direction of a Study Steering Committee
- Membership
 - DWA – various sections
 - Provinces
 - Municipalities
 - Mines
 - Eskom
 - Many other stakeholders
- Input information i.e. water use and future requirements checked and re-checked with users



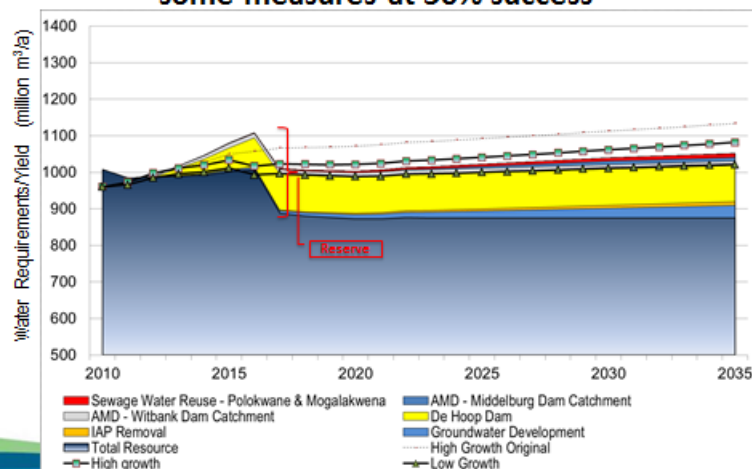
Projected Future Water Balance for the whole Olifants Catchment



Reconciliation scenario: all measures at 100% success



Current reconciliation strategy: some measures at 50% success



Options that will reduce water requirements: some measures at 50% success

Option	Total savings possible	Starting year	Duration (years)	% success assumed	Scenario savings (mill m ³ /a)
WC/WDM Irrigation	35	2013	5	50	17
WC/WDM Urban	40	2013	5	50	20
WC/WDM mining	5	2015	10	100	5
Eradicate unlawful water use	17.4	2012	4	50	9
Total	97.4				51

Options that will increase resources: some measures at 50% success

Option	Yield poten.	Starting year	Duration (years) to full yield	% success assumed	Scenario yield (mill m ³ /a)
Removal of IAPs	21	2012	23	50	10.5
Development of groundwater	70	2012	23	50	35
Treatment of mine water in Witbank Dam catchment	12	2015	1	100	12
Treatment of mine water in Middelburg Dam catchment	10	2030	1	100	10
Sewage water re-use at Polokwane and Mokopane	11	2012	23	100	11
Total	124				78.5

Olifants Reconciliation Strategy in a Nutshell

- Operationalize the Reserve as soon as practical.
- Water to power stations will continue to be supplied from the Usuthu, Komati and Vaal systems.
- **Water required to supply the current and future requirements for social and economic activities in the Olifants catchment will have to come from the catchment's local resources**
- Water required by the Polokwane and Mokopane supply areas will be augmented from the Olifants catchment.

Olifants Reconciliation Strategy in a Nutshell (continued)

- Reconciliation achieved through:
 - Eliminating unlawful water use
 - Introducing water conservation and water demand management (WC/WDM) in all sectors
 - Utilisation of treated acid mine drainage water.
 - Removing of invasive alien plants
 - Developing groundwater
 - Additional reuse of return flows from Polokwane and Mokopane
- Solutions management rather development orientated
 - Orchestrated effort is necessary.
 - If not fully achieved, water will have to be moved from low value irrigation

Risks And Uncertainties

Risks and uncertainties are listed in the strategy report. A few crucial ones are listed below

- Extent of unlawful water use. Best estimates will have to suffice until V&V process is complete
- Success of purchasing WC/WDM savings is difficult to predict. A well structured policy is urgently needed
- Cooperation of WMIs, Local Authorities and mining companies
- Successful implementation of the strategy holds a significant risk if the establishment of the CMA is further delayed

Institutional Responsibilities

Intervention	Actions Required	Primary Responsibility	Target Date
Addressing Unlawful Irrigation Use (Compliance Monitoring and Enforcement)	Validation and Verification	DWA Regions, later CMA	End 2016
	Directives to unlawful water users	DWA Regions, later CMA	End 2018
	Legal action where needed	DWA Legal Services. Will later assist CMA	End 2018
	Maintenance of lawful water use in controlled areas	IBs, WUAs for CMA	Ongoing

22

Strategy Priorities

- Establish a Strategy Steering Committee to:
 - Monitor implementation of the Reconciliation Strategy
 - Adjust the strategy.
 - Communicate
- DWA for its responsibilities will
 - Analyse recommendations
 - Start with DWA part of the implementation
 - High priority
 - Develop a policy and guideline on water trading
 - Accelerate establishment of CMA

23

Questions for Clarity and Discussions

24

ANNEXURE 3: STRATEGY ACTIONS AND INTERVENTIONS: ASSIGNING RESPONSIBLE INSTITUTIONS

Olifants River Water Supply System Reconciliation Strategy

Strategy actions and interventions: Assigning responsible institutions (Item 5.3)

Strategy Steering Committee No. 1
Forever Resorts Loskop Dam, 7 March 2013

Presented by Mr Tendani Nditwani
Chief Water Resource Planner: DWA

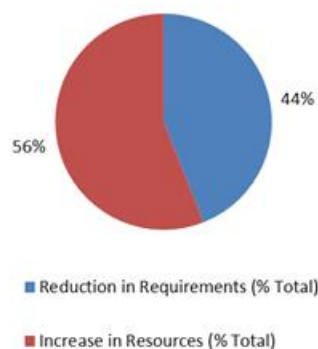


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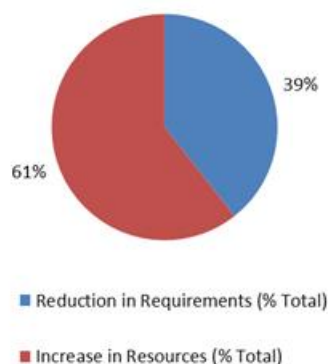
Responsibilities

- Reconciliation Strategy recommended actions (interventions) for:
 - Reduction in water requirements
 - Increase in resources
- Appropriate champions to be identified for each action, to:
 - Identify the most appropriate enablers
 - Obtain feedback on progress with recommended interventions

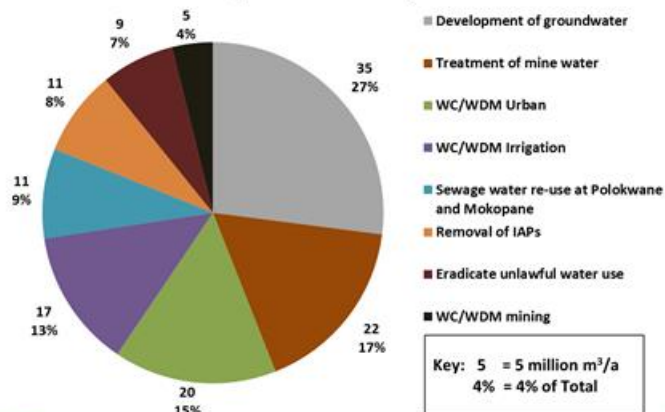
100% Scenario Water Balance Contributions



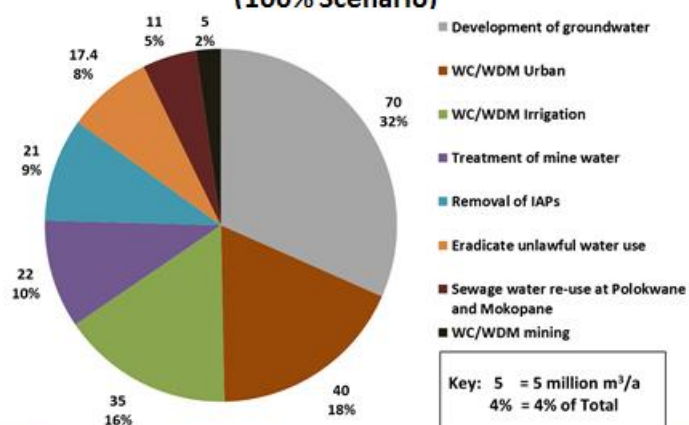
50% Scenario Water Balance Contributions



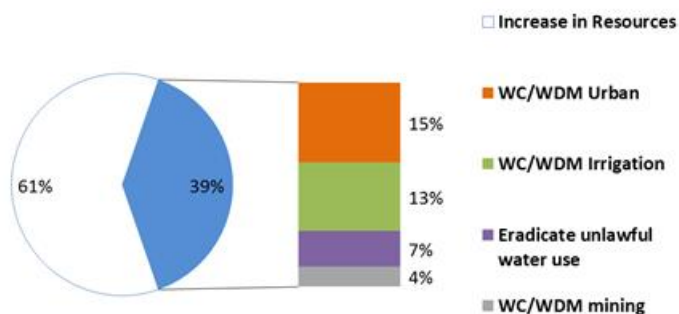
Initial Low Growth Target Water Balance Contribution (50% Scenario)



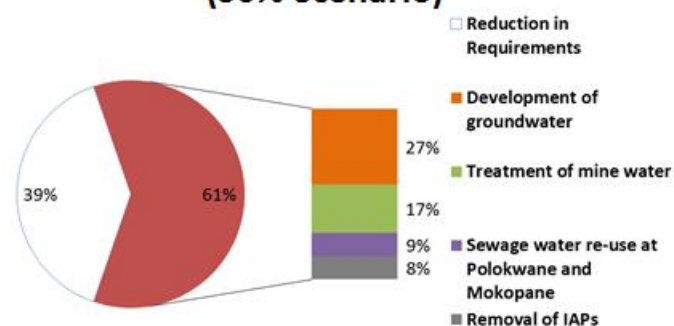
High Growth Target Water Balance Contribution (100% Scenario)



Target Reductions in Requirements (50% Scenario)



Target Increase in Resources (50% Scenario)



Reduced Water Requirements

Strategy Intervention	Target saving (million m ³ /a)		Start Date	Time to Full Saving (Years)
	50% Scenario	100% Scenario		
WC/WDM – Urban Domestic and Industries	20	40	2013	5
WC/WDM – Irrigation	17	35	2013	5
Eliminating unlawful water use	9	17	2015	5
WC/WDM - Mining	5	5	2013	10
Total	51	97		

WC/WDM: Urban Domestic and Industries

Urban Areas	Target Saving (million m ³)		Types of Actions Required	Primary Responsibility	Champions
	50% Scenario	100% Scenario			
Western Highveld	7.7	15.4	<ul style="list-style-type: none"> Pressure Management Leak detection & repairs Public awareness (e.g. In-formative billing, retrofitting of water saving devices) 	Rand Water, DM	
Emalahleni	7.2	14.4		DM? WB? LM?, WSP? WUA?	
Phalaborwa	1.6	3.2		DM? WB? LM?, WSP? WUA?	
Lebowakgoma	0.7	1.4		DM? WB? LM?, WSP? WUA?	
Polokwane (only from Olifants)	0.7	1.4		DM? WB? LM?, WSP? WUA?	
Lydenburg	0.7	1.4		DM? WB? LM?, WSP? WUA?	
Others (Middelburg, Bronkhorstspuit, Hoedspruit, Groblersdal, Marble Hall, Delmas, Belfast, Burgersfort, Cullinan)	1.6	3.2		Rand Water, DM? WB? LM?, WSP? WUA?	
Total	20	40	15% - 18% Contribution to water balance		

WC/WDM: Irrigation

Priority Irrigation Area	Target Saving (million m³)		Actions Required	Primary Responsibility	Champions
	50% Scenario	100% Scenario			
Loskop Area (Including Flag Boshielo, Hereford, Metzirr Scheme)	16.5	33.0	• Improved Systems • Convert to pipelines	Irrigators or IBs on behalf of irrigators	
Steelpoort Area (Groot Dwars, Origstad, Central Steelpoort, Laer Spekboom, Kaspemek- Vyehoek, Groot Dwars)	1	2			
Total	17.5	35.0	13% - 16% Contribution to target water balance		

Eradication of Unlawful Use

Reservoir Catchment Areas	Indicative Target Saving (million m ³)		Types of Actions Required	Primary Responsibility	Champions
	50% Scenario	100% Scenario			
Bronkhorstspuit	3.7	7.4	<ul style="list-style-type: none">Validation and Verification Directives to unlawful water usersLegal action where neededMaintenance of lawful water use in controlled areas	DWA Regions, later: CMA DWA Legal Services. Will later assist CMA IBs, WUAs for CMA	
De Hoop	2.0	4.0			
Loskop	1.5	3.0			
Middelburg	1.1	2.2			
Witbank	0.5	1.0			
Total	9	18	7% -8% Contribution to water balance		

WC/WDM: Mining

Applicable Mines and Area	Target Saving (million m ³)	Actions Required	Primary Responsibility	Champions
Platinum, chrome and iron mines in the Middle Olifants Catchment and Phalaborwa	5	<ul style="list-style-type: none"> Process adaptations for enabling water recycling and water reuse Retrofitting water saving devices 	Mine owners, operators and industries	
Total	5	2% - 4% Contribution to target water balance		

Increase in Resources

Strategy Intervention		Target saving (million m ³ /a)		Start Date	Time to Full Saving (Years)
		50% Scenario	100% Scenario		
Groundwater development		35	70	2012	23
Treatment of mines water in catchments	Witbank Dam	22	22	2012	20
	Middelburg Dam			2020	10
Removal of IAPs		11	21	2010	25
Sewage water reuse – Polokwane and Mokopane		11	11	2012	23
Total		79	124		

Development of Groundwater

Applicable Areas	Target Increase in Yield (million m ³)		Actions Required	Primary Responsibility	Champions
	50% Scenario	100% Scenario			
Diffuse over catchment in non-over allocated areas	35	70	<ul style="list-style-type: none"> Borehole siting Drilling Infrastructure development Pre- and Feasibility Studies 	DMS, LMS, Water Boards, mine companies, industries, private individuals	
Total	35	70	27% - 32% Contribution to target water balance		

Treatment of mine water

Mining Area	Target Increase in Yield (million m³)	Actions Required	Primary Responsibility	Champions
Witbank Catchment	12	Feasibility Study Design Tenders Construction	DWA, Mining Companies, Eskom, DM's, LM's, WB	
Middelburg Catchment	10			
Total	22	10% - 17% Contribution to target water balance		

Removal of IAP

Catchment Areas	Target Increase in Yield (million m ³)		Types of Actions Required	Primary Responsibility	Champions
	50% Scenario	100% Scenario			
Loskop	3.4	6.8	<ul style="list-style-type: none">• Removal of plants• Rehabilitate land and re-establish indigenous vegetation• Follow ups and maintenance	DWA, Environmental Affairs	
Blyde River	3.0	6.0			
Flag Boshielo	1.6	3.2			
Witbank	1.1	2.1			
Moomba	0.6	1.1			
Bronkhorstspuit	0.4	0.8			
Rust de Winter	0.4	0.7			
Middelburg	0.2	0.3			
De Hoop	0.0	0.0			
Total	11	22	8% - 9% Contribution to water balance		

Sewage Water Reuse at Polokwane and Mokopane

Applicable Towns	Target Increase in Yield (million m ³)	Actions Required	Primary Responsibility	Champions
Sewage water re-use at Polokwane and Mokopane	11	<ul style="list-style-type: none"> Assess current use and return flows Feasibility Studies and Options Analysis Infrastructure development 	DMs, LMs, DWA	
Total	11	5% - 9% Contribution to target water balance		

Thank You

ANNEXURE 4: ASSIGNMENT TASKS

Olifants River Water Supply System Reconciliation Strategy

Assignment Tasks (Item 6)

**Strategy Steering Committee No. 1
Forever Resorts Loskop Dam, 7 March 2013**

Presented by Mr Pieter van Rooyen



1

Assignment Overview

- Assignment Name: Continuation of the Olifants River Water Supply System Reconciliation Strategy – Phase 1
- Period: 36 Months (End Date: Sep 2015)
- Main aim of the assignment: Support the implementation of the Strategy by providing the administrative and technical assistance to the Strategy Steering Committee and DWA
- PSP's: Hydrosol Consulting, WRP Consulting Engineers, Knight Piesold Consulting and Golder and Associates.

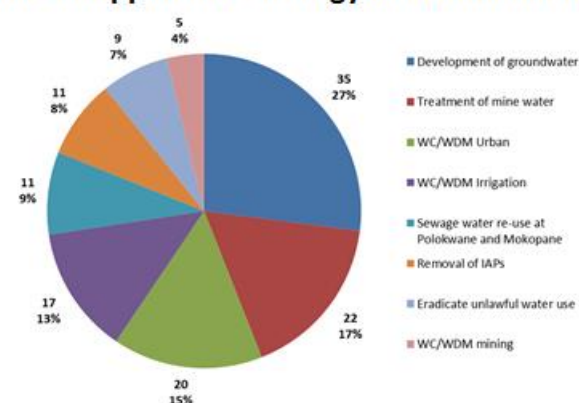
Overview of tasks

- Inception Phase
- Task 1: Administrative Support to the SSC and updating of the Strategy
- Task 2: Technical Support
- Task 3: Closeout Report

Task 1: Administrative Support to SSC and updating of the Strategy

- Task 1.1: Meetings Organization
 - 1.1.1 Strategy Steering Committee
 - 1.1.2 Support Group
 - 1.1.3 Study Management Team
- Task 1.2: Stakeholder engagement
- Task 1.3: Project Management
- Deliverables: Scheduling, Agendas, Minutes, Progress Reports, Correspondence, Invites, New Letters, Press Releases, Status Reports, etc.

Technical Support for Strategy Recommendations



Intervention option contributions in million m³/annum

Technical Support Aims

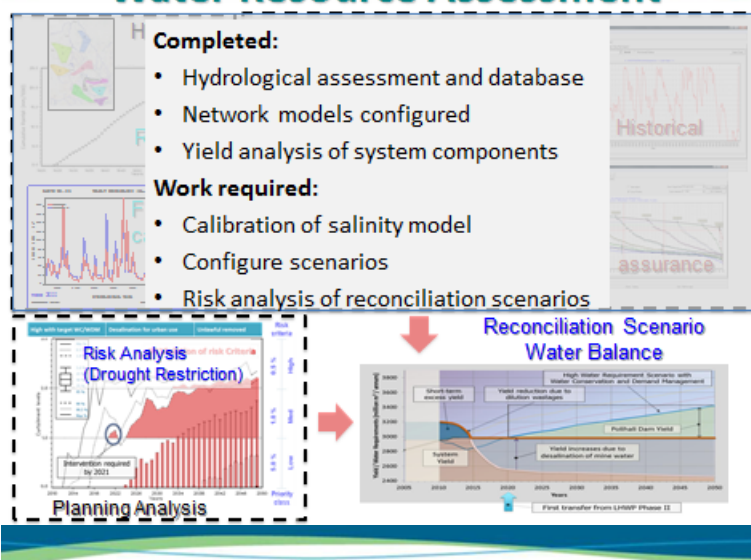
- A. Configuration of risk based mathematical model, analyse reconciliation scenarios and verify timelines
- B. Investigate reduction in requirements.
- C. Investigate additional resources

Task 2: Technical Support

A: Configuration of risk based mathematical model, analyse reconciliation scenarios and verify timelines:

- 2.1 Salinity Modelling
- 2.2 Improving of the Water Resource Planning Model (WRPM)
- 2.3 Development of water requirement scenarios and monitor actual water use against projections
- 2.4 Updating WRPM with strategy plans

Water Resource Assessment



Task 2: Technical Support

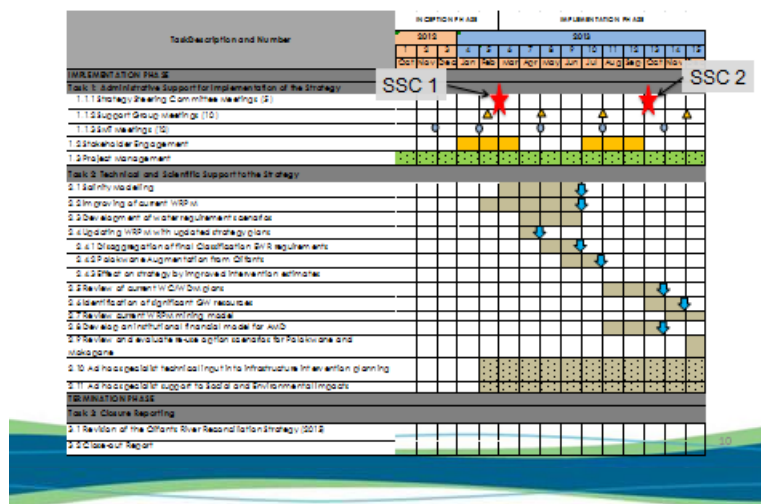
B: Investigate reduction in requirements.

- 2.5 Review of current WC/WDM plans

C: Investigate additional resources

- 2.6 Identification of significant GW resources
- 2.7 Review current WRPM mining module
- 2.8 Evaluate institutional financial model for AMD
- 2.9 Review and evaluate re-use option scenarios for Polokwane and Mokopane
- 2.10 & 2.11 Technical support – Infrastructure Intervention Planning (i.e. ORWRDP Phases), Social and Environmental Impacts.

Programme (Up to December 2013)
(provisional depending on budget)



Feedback