



## water & sanitation

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

# SUSTAINABLE DEVELOPMENT GOAL 6 Gauteng Regional Bi-Annual Progress Report January 2022



Compiled by: Water Resources Support

## **Executive Summary**

### **1 BACKGROUND**

Following the conclusion of the Millennium Development Goals (MDGs) in 2015, the United Nations (UN) adopted the 2030 Agenda for Sustainable Development, consisting of 17 sustainable development goals (SDGs), as well as a monitoring framework of 69 targets and 230 indicators to track achievement of the SDGs. The SDGs build on the MDGs and present a significantly broader context for tackling universal developmental challenges. The SDG targets are indeed valid for and applicable to South Africa. They are also in line with the Vision 2030 (the National Development Plan) as well as Medium Term Strategic Framework (MTSF) Outcome Targets. They are also a key driver of the National Water & Sanitation Master Plan in terms of the water and sanitation needs of each. Since the adoption of the SDGs, South Africa has made great strides in unlocking opportunities and devising mechanisms that support the effective implementation of the SDGs. Despite the commendable efforts that have been made, the 2019 reporting period revealed that significant work is still required for South Africa to achieve the 2030 Agenda within the allotted time.

Statistics South Africa (Stats SA) is the focal point for all 17 SDGs in the country. Out of these 17 goals to be attained by 2030, there is a dedicated water and sanitation goal (Goal 6) with the objective to “ensure access to water and sanitation for all”.

Department of Water and Sanitation is now spearheading the effort in the South African water sector to deliver on the SDGs, in particular SDG 6: Ensure availability and sustainable management of water and sanitation for all. It is widely recognised that achieving SDG 6 is essential for progress on all other SDGs and vice versa. Sustainable management of water and sanitation underpins wider efforts to end poverty, advance sustainable development and sustain peace and stability.

The SDG 6 goal focuses on clean water and sanitation, and it is driven through eight targets and eleven indicators that will be used to propel different components and monitor progress. Achieving SDG 6 is not only essential for the water and sanitation sector, but it also has a major impact on all other 16 SDG goals led by others – from improving the health of our people; to curtailing hunger; improving the education of our children; maximizing gender equality; and the inclusion of all, including vulnerable groups. All the above must be considered while ensuring environmental protection,

minimising the impacts of climate change, and ensuring sustainable growth for our country. Water and sanitation are central to development and have a major role to play in all SDG activities.

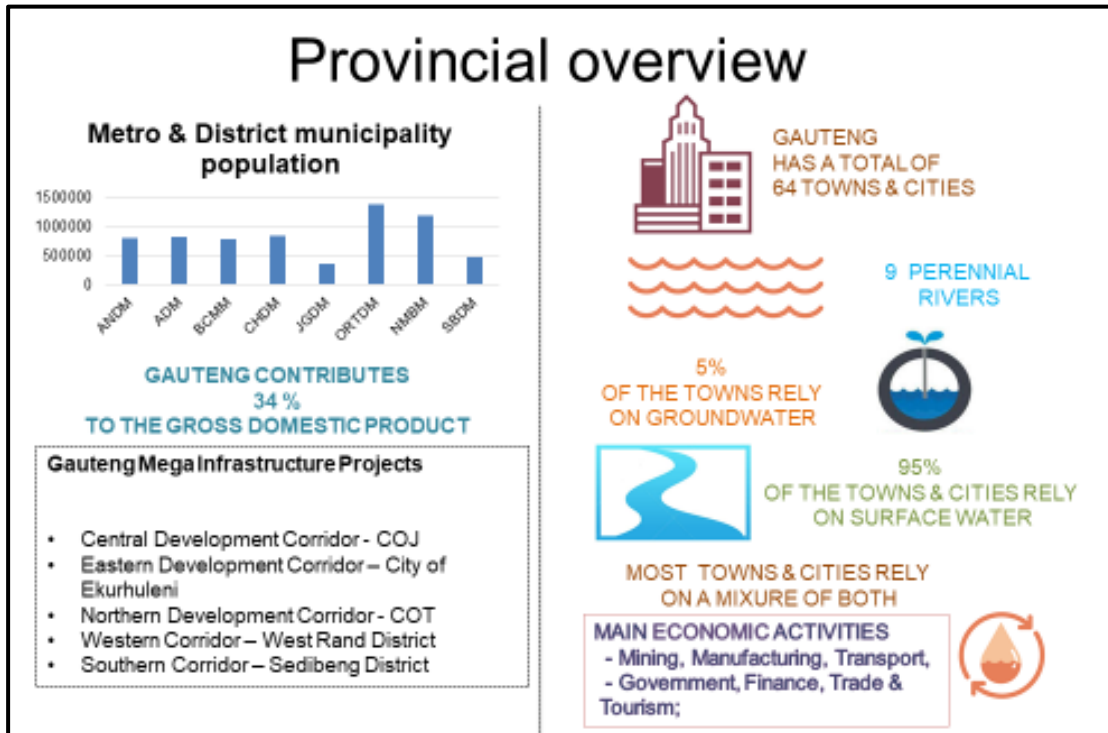
## **2 REGIONAL STRUCTURE / TEAM TO IMPLEMENT SDG 6**

The SDG 6 functions cut-across all directorates in the region and the following directorates are directly involved in SDG 6 functions:

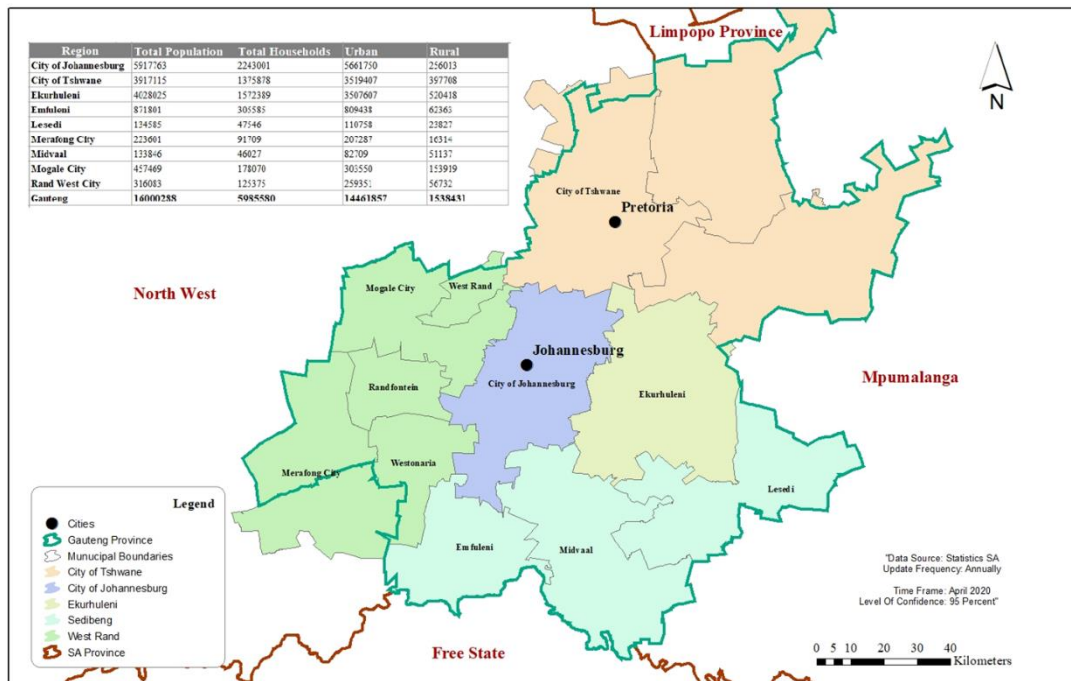
- Office of the Provincial Head
- Water Services Support
- Water Resources Support
- Regulation, Compliance and Enforcement
- Infrastructure Programme
- Proto-CMA

Director: Water Resources Support is the coordinator and champion of SDG 6

### 3 PROVINCIAL OVERVIEW



### Gauteng population per local municipality boundary



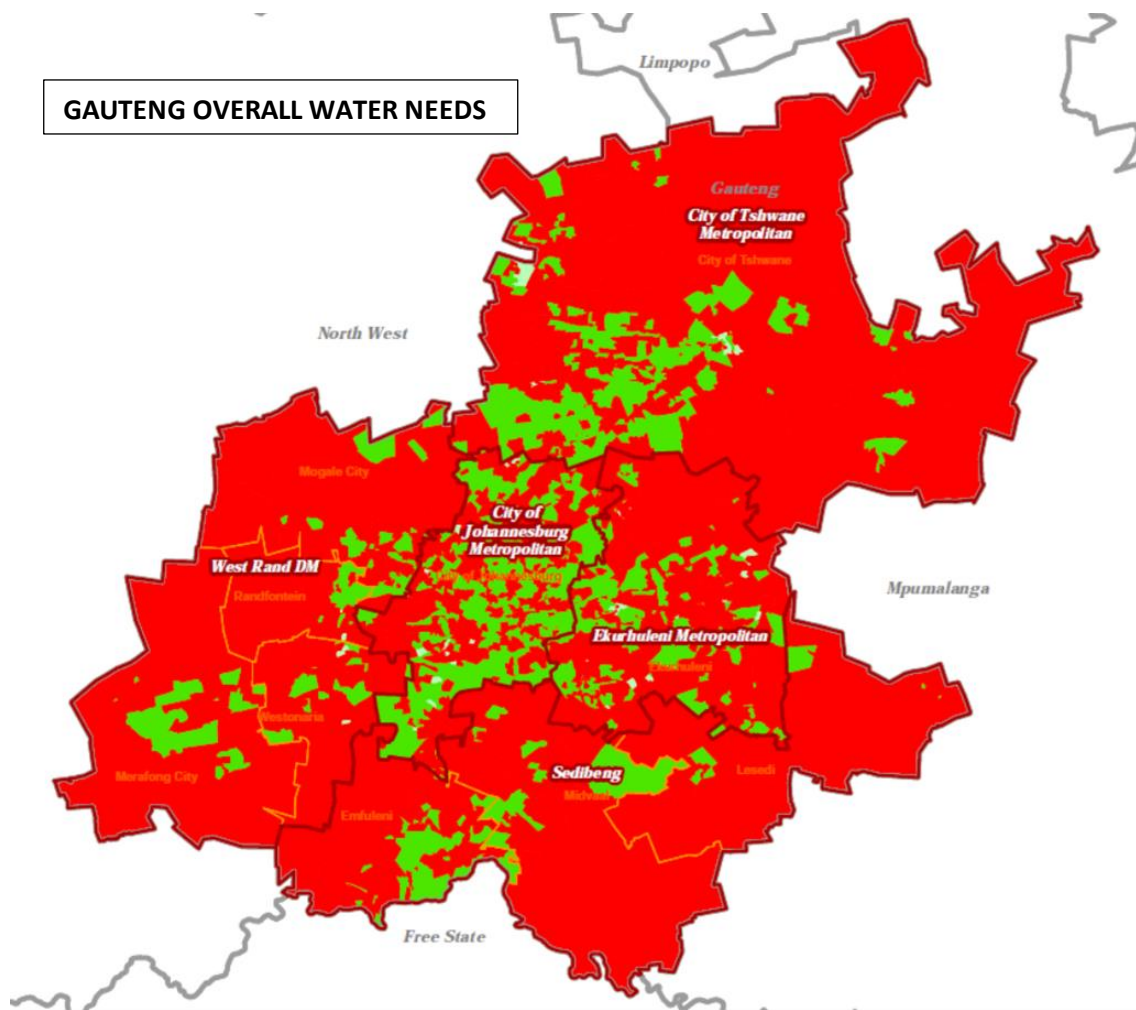
# Challenges to Delivering Reliable & Safe Water Services



**4 PROGRESS REPORT (PER TARGET)**

4.1 **SDG 6.1 – Achieve universal and equitable access to safe and affordable drinking water for all**

**Situational Analysis of the Province**



<p><b>LOCALITY MAP</b></p>	<p><b>Settlement Categorisation</b></p> <p><b>Formal</b></p> <ul style="list-style-type: none"> <li>1) Adequate</li> <li>3) Adequate: Shared Services</li> <li>5) Water Resource Needs</li> <li>6) O&amp;M Needs</li> <li>7) Infrastructure Needs</li> <li>8) Infrastructure &amp; O&amp;M Needs</li> <li>9) Infrastructure, O&amp;M &amp; Resource Needs</li> <li>10) No Services</li> </ul> <p><b>Informal</b></p> <ul style="list-style-type: none"> <li>2) Adequate</li> <li>4) No Services</li> </ul>	<p><b>BASE MAP LEGEND</b></p> <ul style="list-style-type: none"> <li>Gauteng Province</li> <li>Provincial Boundaries</li> <li>District Municipal Boundaries</li> <li>Local Municipal Boundaries</li> </ul>
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## Water supply systems in the Province

Name of WSA	Name of Water Supply Systems	
City of Ekurhuleni	• Rand Water	
City of Johannesburg	• Greater Johannesburg Water Supply System	
City of Tshwane (11)	• Bronkhorstspuit WTW • Bronkhorstbaai WTW • Summerplace WTW • Cullinan WTW • Rietvlei WTW	• Walmansthal WTW • Onerwatch Informal Settlement • Pretoria Central (Findley) • Temba (Temba WTW, Klipdrift WTW) • Sokhulumi Informal Settlement • Roodeplaat WTW
Emfuleni Local Municipality (2)	• Emfuleni Water Supply System • Vaaloewer Water Supply System	
Lesedi Local Municipality	• Lesedi Main	
Merafong City Local Municipality (3)	• Wedela • Fochville • Carltonville	
Midvaal Local Municipality (2)	• Vaal Marina • Meyerton	
Mogale City Local Municipality (3)	• Mogale City Water Supply System (Active), (1) • Mogale City Rural Boreholes & Mogale / Demarcation Intermediary System (Decommissioned), (2)	
Rand West City (7)	• Bekkersdal • Glenharvie • Suurbekom • Wagterskop	• Waterpan • Westonaria • Randfontein Water Supply Systems

## Non-compliant water supply systems in the Province

Facility	Water Services Authorities	Challenges	Interventions
Cullinan	City of Tshwane Metropolitan	Non-compliance to some standards	<ul style="list-style-type: none"> <li>• Issuance of non-compliance letters and notices to Water Services Institutions (WSAs)</li> <li>• Frequent inspections and sampling</li> <li>• Engagements with WSAs in terms of Inter-governmental Relations</li> </ul>
Bronkhorstbaai			
Bronkhorstspuit			
Temba WTW			
Walmansthal			
Summer Place			
Vaaloewer	Emfuleni Local Municipality	Non-compliance to some standards	
Vaal Marina	Midvaal Local Municipality	Non-compliance to some standards	
Emfuleni WTW	Emfuleni Local Municipality	Non-compliance to some standards	

### Gaps Identified by the Region

- No data on rural water quality.
- Improve interruptions of basic water supply – i.e., reliable water.

### Interventions

- Blue Drop progress assessments to include rural drinking water supply systems.
- Technical inspections should be conducted to monitor operations, maintenance, and technical skills at the water treatment works.



- Monitoring of non-compliant water supply systems against the regulatory requirements must include rural areas.
- Provide support to Head Office with regards to Vaal reconciliation strategy studies.
- Provide support to Head Office with regards to operating rules and specialist strategy studies.
- Implement small Water Services Infrastructure Grant (WSIG) Projects.

### **Activities implemented in support**

- Sixty (60) drinking water quality samples taken and submitted to UIS laboratory.
- Municipality Priority Action Plan (MPAP) consultative meeting was held on the 18<sup>th</sup> November 2021 with City of Ekurhuleni Municipality.
- MPAP consultative meeting was held on the 21<sup>st</sup> October 2021 with City of Johannesburg Metro Municipality.
- MPAP consultative meeting was held on the 01<sup>st</sup> December 2021 with City of Tshwane Municipality.
- Two (2) non-compliant water supply systems were monitored against the regulatory requirements (Emfuleni and Summer place).

### **Drinking Water Compliance**

Gauteng												
	Acute Health Microbiological		Acute Health Chemical		Chronic Health Chemical		Non Health Aesthetic		Operational		Disinfectant	
	Comply	%MRP	Comply	%MRP	Comply	%MRP	Comply	%MRP	Comply	%MRP	Comply	%MRP
City of Ekurhuleni	98.6%	0.0%	>99.9%	0.0%	>99.9%	0.0%	99.6%	0.0%	97.2%	0.0%	81.0%	0.0%
City of Johannesburg Metropolitan Municipality	98.2%	0.0%	>99.9%	0.0%	>99.9%	0.0%	99.9%	0.0%	96.4%	0.0%	50.9%	0.0%
City of Tshwane Metropolitan Municipality	99.7%	51.7%	98.4%	0.0%	97.0%	61.5%	98.1%	97.2%	94.8%	66.8%	30.5%	27.6%
Emfuleni Local Municipality	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Lesedi Local Municipality	>99.9%	31.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	>99.9%	50.8%	0.0%	0.0%
Meratong City Local Municipality	>99.9%	22.7%	>99.9%	0.0%	97.6%	0.0%	>99.9%	56.4%	96.9%	24.1%	3.0%	0.0%
Midvaal Local Municipality	94.0%	64.8%	0.0%	0.0%	99.0%	11.8%	>99.9%	97.9%	96.3%	74.8%	25.4%	4.5%
Mogale City Local Municipality	97.4%	32.3%	0.0%	0.0%	98.1%	0.0%	99.9%	92.0%	95.7%	55.4%	25.1%	0.0%
Rand West City	95.9%	38.6%	>99.9%	0.0%	>99.9%	0.0%	99.5%	88.6%	97.5%	51.1%	0.0%	0.0%
<b>Gauteng</b>	<b>98.7%</b>	<b>&gt;99.9%</b>	<b>98.8%</b>	<b>0.0%</b>	<b>99.1%</b>	<b>&gt;99.9%</b>	<b>99.1%</b>	<b>&gt;99.9%</b>	<b>96.4%</b>	<b>&gt;99.9%</b>	<b>51.0%</b>	<b>&gt;99.9%</b>



## Gauteng Water Losses Status

Municipality	Population served	System input volume (Kl/annum)	Authorised Unit Consumption litre/capita/day	Revenue Water (RW) (Kl/annum)	% RW	Non-Revenue Water (NRW) (Kl/annum)	% NRW	Water Losses(WL)	%WL
City of Johannesburg	5 864 856	598212171	193	339 979 608	56.8	258 232 563	43.2	180 517 780	30.2
City of Tshwane	3 399 320	362472150	190	247 699 740	68.3	114 772 410	31.7	114 445 678	31.6
City of Ekurhuleni	3 419 544	352391523	186	224 403 863	63.7	127 987 660	36.3	115 345 705	32.7
Emfuleni	732 689	106657016	146	37 791 350	35.4	68 865 666	64.6	67 053 706	62.9
Midvaal	125 543	12 834 391	179	8 221 652	64.1	4 612 739	35.9	4 612 739	35.9
Lesedi	121 716	8 135 093	125	5 417 576	66.6	2 717 517	33.4	2 579 312	31.7
Mogale City	387 696	33 340 061	172	12 547 949	37.6	20 792 112	62.4	9 065 508	27.2
Rand West City	256 364	20 685 614	137	12 316 845	65.1	8 368 769	40.5	7 874 104	38.1
Merafong City	178 119	14 888 694	196	10 810 441	72.6	4 078 253	27.4	2 134 253	14.3

## Progress on water supply infrastructure projects

### Syferfontein Bulk W&S Pipelines (WRSS)

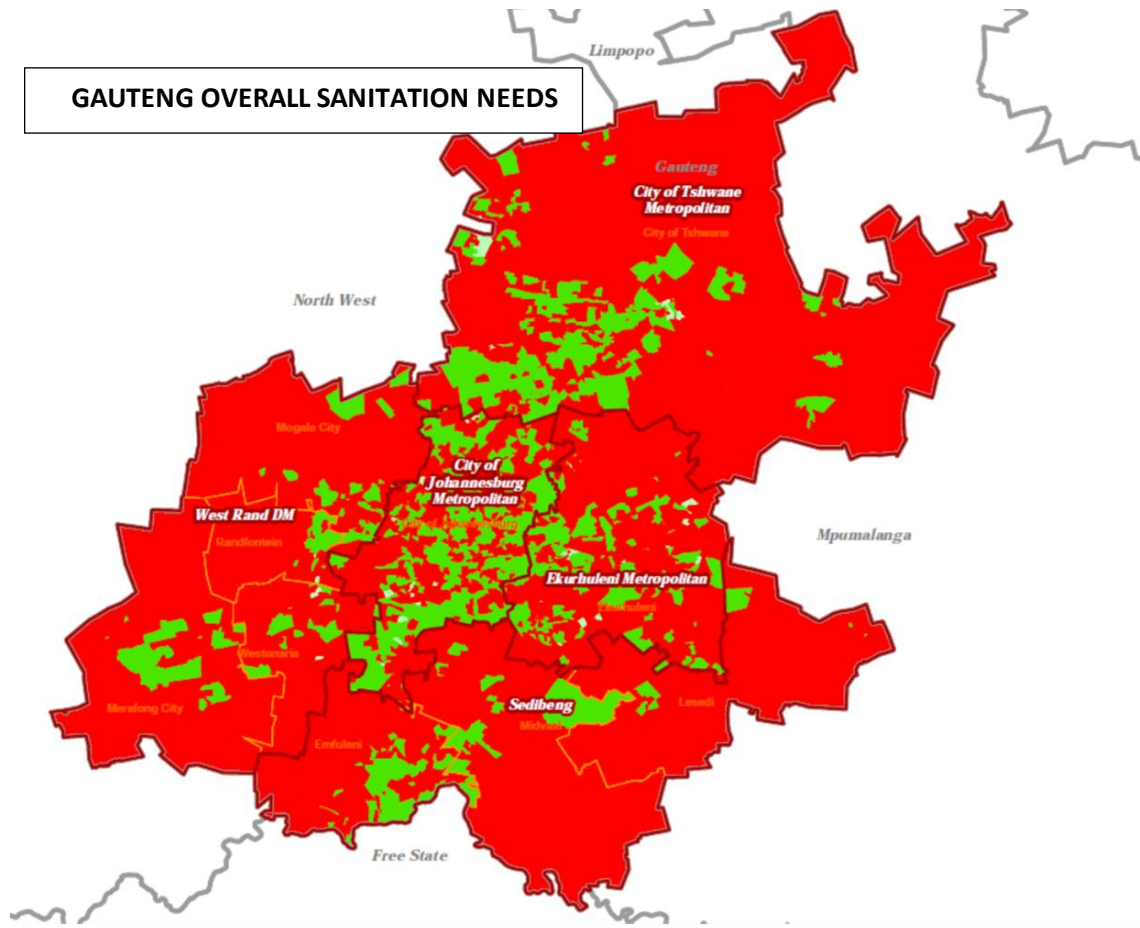
<b>Project Description</b>		<b>Target/Catalytic Effect</b>		60 000 HH	
To construct a new 1.2m diameter bulk water supply line, water storage reservoirs as well as new bulk sewerage lines, pump stations to pump the sewer to the proposed Zuurbekom WWTW.		<b>Project Phase</b>		Planning	
<b>Project Scope</b>		<b>Project Start</b>	Nov 2019	<b>Project Finish</b>	Mar 2023
<ul style="list-style-type: none"> <li>Scoping processes &amp; Options analysis</li> <li>Conduct technical feasibility studies &amp; IRS</li> <li>Design of final options</li> <li>Application for servitudes</li> <li>Geotechnical investigations</li> <li>Undertaking of EIA &amp; WUL applications.</li> <li>Construction phases.</li> </ul>		<b>Estimated Total Cost at Completion</b>		R1 047 000 000	
<b>Summary Progress</b>		<b>Total Expenditure to Date</b>		R0	
<ul style="list-style-type: none"> <li>Memorandum of Understanding between DOH &amp; DWS.</li> <li>Preliminary Designs complete.</li> <li>Detail Designs – Almost complete</li> </ul>		<b>R'000</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>
<b>Key Issues/ Challenges</b>		<b>MTEF Budget Proposed</b>	R142 700 000	R162 000 000	R250 000 000
<b>Way forward</b>		<b>MTEF Budget Original</b>	R0	R0	R0
<ul style="list-style-type: none"> <li>DWS to issue instruction to proceed with detailed designs pending budget availability</li> </ul>		<b>MTEF Budget Revised</b>			

### Water Services Infrastructure Projects – WSIG

<b>Sedibeng District Municipality</b>	<b>Lesedi Local Municipality</b>	Replacement of AC water pipes in Heidelberg, Gauteng - Phase 6, budgetary allocation had been withheld due to non-compliance with Division of Revenue Act regulations. Business plans have been sent to DWS head office for final approval, and contractors have been appointed and awaiting transfer of funds to be made to the municipality.	Ongoing	R 19 000 000
		The upgrading of the sewer pipeline in Ratanda- budgetary allocation had been withheld due to non-compliance with Division of Revenue Act regulations, budgetary allocation had been withheld due to non-compliance with Division of Revenue Act regulations. Business plans have been sent to DWS head office for final approval, and contractors have been appointed and awaiting transfer of funds to be made to the municipality.	New	
	Installation of New Telemetry Systems, Zonal Meters and PRVs- budgetary allocation had been withheld due to non-compliance with Division of Revenue Act regulations. Business plans have been sent to DWS head office for final approval, and contractors have been appointed and awaiting transfer of funds to be made to the municipality			
	<b>Lesedi Local Municipality</b>	Aged Bulk Water Pipe Replacement (Water Demand Management), contractors have started with site activities	Ongoing	R 18,000,000
		Supply, delivery, and installation of pressure management infrastructure (Pipes and valves) and bulk water meters- contractors have started with site activities	Ongoing	
<b>West Rand District Municipality</b>	<b>Merafong City Local Municipality</b>	Phase 6: Relocation of Khutsong reservoir and related bulk infrastructure. Contractor on site and the project is at an advanced stage of implementation. The reservoir flooring and columns have been completed.	Ongoing	R 95,000,000
	<b>Rand West City Local Municipality</b>	Refurbishment of Badirile wastewater treatment plant. Inception meeting took place, and the contractor has commenced with site establishment.	New	R 50 000 000
		Provision of water reticulation water meters and standpipes in Bekkersdal Informal settlements. Inception meeting took place, and the contractor has commenced with site establishment.	New	
	<b>Mogale City Local Municipality</b>	Mogale City Rural Water Supply to Villages- Phase 3. Inception meeting took place, and the contractor has commenced with site establishment.	Ongoing	R 45,000,000
Mogale City water conservation and water demand management: Asbestos pipeline replacement – Phase 3 is at Inception meeting took place and the contractor has commenced with site establishment.		New		

**SDG 6.2 – Achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations**

**Situational Analysis of the Province**



**Settlement Categorisation**

Formal	Informal
1) Adequate	2) Adequate
3) Adequate: Shared Services	4) No Services
5) Water Resource Needs	
6) O&M Needs	
7) Infrastructure Needs	
8) Infrastructure & O&M Needs	
9) Infrastructure, O&M & Resource Needs	
10) No Services	

**BASE MAP LEGEND**

Gauteng Province	Province Boundaries
District Municipal Boundaries	Local Municipal Boundaries
Settlements	



### Level of Sanitation Services in Gauteng

COMMUNITY SURVEY 2016	Households	Percentage Access	Categories of Service	Legend Categories
Waterborne sanitation	4 180 628	84.44%		<b>Basic</b> 4 385 801
Septic tank	92 996	1.88%		
VIP	106 184	2.14%		
Ecological toilet	5 992	0.12%	88.58%	
Chemical toilet	72 239	1.46%		<b>Underserved</b> 374 931
Pit latrine	302 693	6.11%	7.57%	
Bucket toilet (municipality)	113 594	2.29%		<b>No Service</b> 160 907
Bucket toilet (household)	21 777	0.44%	2.73%	
<b>No access</b>	<b>25 536</b>	<b>0.52%</b>	<b>0.52%</b>	
Toilet Other	29 498	0.60%	0.60%	<b>Unknown</b>

### Gaps Identified by the Region

- Strengthening of data collection, monitoring, and reporting progress on access to sanitation and hygiene across sectors (Including NGOR commitments).

### Interventions

- Implementation of small, large, and mega regional bulk infrastructure construction projects.
- Implementation of Vaal River intervention project.
- Assess Water Services Authorities (WSAs) for water services performance and compile annual MuSSA reports on water services authorities' performance in providing water and sanitation services.
- Consult WSAs to prioritise gaps identified through MuSSA.

### Activities implemented in support

- By the end of December 2021 Emfuleni Local Municipality was sitting at 14% MuSSA progress, Midvaal was at 13% MuSSA progress, City of Ekurhuleni was at 99%, City of Johannesburg was sitting at 100%, but not yet submitted to DWS, while other municipalities were at 0%.

## Progress on infrastructure projects

### Lindley WWTW

#### Project Description

To construct a new 20 M<sup>3</sup>/day Lindley WWTW that will service the North-Eastern Region of Mogale City Local Municipality (MCLM), enabling the Municipality to deliver a high degree of service to the rapidly expanding population.

#### Project Scope

The proposed Lindley WWTW includes the following components:-

- Screening and de-gritting;
- Primary settling (if required);
- Flow balancing;
- Conventional biological nutrient removal;
- Secondary settling;
- Chlorine dosing; and
- Sludge management.

#### Summary Progress

- Urban design framework and layout plan completed.
- Designs completed.
- Environmental Authorizations completed.

#### Key Issues/ Challenges

#### Way forward

- DWS to issue instruction to proceed with detailed designs subject to budget availability

Target/Catalytic Effect	72 460 HH
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Project Phase	Planning
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Project Start	Nov 2019	Project Finish	Mar 2023
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Estimated Total Cost at Completion	R399 151 934
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Total Expenditure to Date	R0
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R'000	2019/20	2020/21	2021/22
MTEF Budget Original	R0	R0	R0
MTEF Budget Revised			



### Lion Park/Lanseria Bulk W&S Pipelines

#### Project Description

To construct a new 1.2m diameter bulk water supply line, water storage reservoirs as well as new bulk sewerage lines, pump stations to pump the sewer to the proposed Zuurbekom WWTW.

#### Project Scope

The proposed Lindley WWTW includes the following components:-

- 16km Outfall sewer must be constructed from the Driefontein WWTW up to the position of the new Lindley WWTW.
- Phase 1 and 2 (each with a 10 M<sup>3</sup>/d sewage module) which should be constructed by 2020.
- Phase 3 and 4 (each with a 20 M<sup>3</sup>/d module) should be constructed by 2040.

#### Summary Progress

- Urban design framework and layout plan completed.
- Designs completed.
- Environmental Authorizations completed.

#### Key Issues/ Challenges

#### Way forward

- DWS to issue instruction to proceed with detailed designs on bulk sewer and WWTW;
- Proceed with bulk water infrastructure – supply lines and reservoirs pending budget availability

Target/Catalytic Effect	15 000 HH
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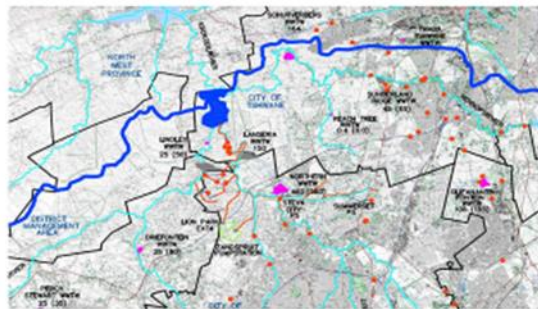
Project Phase	Planning
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Project Start	Nov 2019	Project Finish	Mar 2023
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Estimated Total Cost at Completion	R8 050 000 000
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Total Expenditure to Date	R0
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R'000	2019/20	2020/21	2021/22
MTEF Budget Original	R0	R0	R0
MTEF Budget Revised			





Project Name	Municipality	Beneficiaries (HH) R'000	Project Information	Status
Sebokeng Wastewater Treatment Works	Sedibeng	120 000	2011/12-2020/21 R 912 154	<ul style="list-style-type: none"> <li>Module 6 Completed and commissioned, Currently on Defects Liability Period</li> <li>Module 7 is due to commence dependant on Budgetary allocations</li> </ul>
Meyerton Wastewater Treatment Works	Sedibeng	19 113	2011/12-2012/22 R 212 768	<ul style="list-style-type: none"> <li>Civil works is 94% complete (contractor liquidated).</li> <li>Mechanical works is 81% complete (awaiting completion of civil works to resume).</li> <li>Electrical works is 88% (awaiting completion of civil works to resume).</li> </ul>
Rothdene pump station and raising main	Sedibeng	15 000	2015/16-2021/22 R 101 804	<ul style="list-style-type: none"> <li>Construction of valve chambers and 2 pipe jacking continuing.</li> <li>Project at 86% complete.</li> <li>Contractor on site and expected completion date May 2022</li> </ul>
Mohlakeng pump station and sewer outfall	West Rand	36 410	2015/16-2022/23 R 11 317	Tender Documents ready to go out into the market, awaiting budgetary allocations

Project Name	Municipality	Beneficiaries (HH)	Project Information	Status
Westonaria WWTW (Zuurbekom)	West Rand	70 000	2015/16-2022/23 R 45 053	<ul style="list-style-type: none"> <li>Tender Documents ready to go out into the market, awaiting budgetary allocations</li> </ul>
Vaal River System Intervention (VRS)	Sedibeng	253 488	2019/20-2023/24 R 400 00	<ul style="list-style-type: none"> <li>Unblocking and Bio-solids contractors on site assisting the Emfuleni Local Municipality with the Operations and Maintenance</li> <li>7 Civil Engineering Framework Contractors have been appointed</li> </ul>
Sedibeng Bulk Regional Sewerage Scheme (Reit)	Sedibeng	15 000	2007/8-2022/23 R 271 048	<ul style="list-style-type: none"> <li>Detail Designs for WWTWs completed by the consulting engineers</li> <li>Tender documents being reviewed.</li> <li>Detail &amp; preliminary designs for pipe replacement programme for Leeuwkuil, Rietspruit &amp; Sebokeng catchments have started in June 2021 and are underway</li> </ul>
Mohlakeng pump station and sewer outfall	West Rand	29581	2015/16-2022/23 R 11 317	Tender Documents ready to go out into the market, awaiting budgetary allocations



**SDG 6.3 – Improve water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally**

### **Situational Analysis of the Province**

Water quality is a serious problem in the Upper Vaal because of intensive mining activity, as well as the urban and industrial centres that return effluent to the rivers upstream of the Vaal Barrage. The water transferred from the other Water Management Areas (WMAs) is generally of good quality and lowers the salinity and turbidity of water in Vaal Dam. Atmospheric pollution is also prevalent in the Vaal Dam catchment and contributes to the pollution of surface water resources. Dewatering of mines and the discontinuation thereof can impact on surface flow and can also result water quality problems.

#### Salinity

The water quality of the Grootdraai Dam is currently acceptable, but the trend is downwards. There are several operational and defunct coal mines in the upper reaches of the catchment which need to be managed proactively. Estimates of the water volumes decanting from the mines post-closure is 48 million m<sup>3</sup>/a. The post closure plans need to be finalised and implementation of the plans need to be managed. The salinity in the Vaal Barrage and the middle reaches of the Vaal River is currently being managed by dilution releases from the Vaal Dam to maintain a TDS concentration of 600mg/l in the water.

#### Bacteriological

Microbiological quality of the water downstream of the Vaal Dam indicates an increase in nutrients which indicates a downward trend in the treatment process of wastewater whilst downstream of the Grootdraai Dam there is also a deterioration due to the wastewater treatment infrastructure in the Standerton area malfunctioning. Most wastewater treatment works are in poor condition due to lack of effective operation and maintenance.

#### Eutrophication

Eutrophication is the other key water quality problem in the Vaal River System. This problem results in excessive algal blooms and proliferation of water hyacinths,

especially at the Vaal Barrage. The extent of the problem is highlighted by the trophic status of the major impoundments and weirs. The impacts have resulted in severe impacts on water users. The water supply entities in the Middle Vaal area must upgrade their water treatment works to deal with odour and colour associated with the trophic waters. The algae also impact on the irrigators by clogging the irrigation equipment.

### **Wastewater Treatment Works (WWTWs)**

- Gauteng Province has 65 Wastewater Treatment Works (56 owned by WSA and 9 owned by Dept. of Public Works)
- Average Performance for the WWTWs is: **73.1%- 2020/21**

#### **Critical WWTWs:**

1. **Ekurhuleni Metropolitan Municipality** – Olifantsfontein
2. **Johannesburg Metropolitan Municipality** – Northern Works, Ennerdale and Bushkoppies
3. **Midvaal Local Municipality** – Meyerton
4. **Emfuleni Local Municipality** – Sebokeng
5. **Tshwane Metropolitan Municipality** – Rooiwal, Baviaanspoort, Sunderland Ridge and Klipgat
6. **Rand West Local Municipality:** Randfontein WWTW
7. **Merafong Local Municipality:** Khutsong, Welvediend, Wedela and Kokosi (most process units not operational, such as screening area, clarifiers, chlorination) Interventions – Administrative actions and IGR processes are underway

### **Gaps Identified by the Region**

- There is inadequate surface and groundwater water quality data.
- There are significant gaps in the availability of data on wastewater discharged by authorised non-municipal WWTWs, both into municipal sewer systems and into water resources.
- Compliance to Resource Quality Objectives (RQOs) is not being monitored and reported. This data is not yet collected, stored and easily accessible for those WMAs that have RQOs.
- There are large data gaps with regards to data on the quantity and quality of effluent discharged by municipalities.
- There is a lack of information on unlawful water users with a pollution potential (location, volumes of discharge and water quality).

### **Interventions**

- Ensure surface water monitoring sites that are not currently monitored are re-activated.
- Currently, no water quality monitoring is done for groundwater – regional office only monitors groundwater levels and head office only monitors four ZQM boreholes for quality in Gauteng. Groundwater monitoring to be expanded to include water quality and sites to cover all the hydrogeological regions.
- Collect scheduled water quality grab samples.
- Conduct compliance audits on authorised non-municipal wastewater discharge licences.
- Conduct compliance audits on dams (potable and pollution) with a safety risk.
- Undertake initiatives to collect data on discharges from non-municipal WWTWs.
- Issue written instructions to all currently authorised discharge users to register on IRIS and upload their data and information.
- Monitor and report on compliance to the Upper Vaal water quality RQOs.
- Assess wastewater systems for compliance with the Green Drop regulatory standards.
- Conduct compliance audits on authorised municipal wastewater discharge licences.
- Assess wastewater systems monitored against the regulatory requirements.
- Validate and Verify existing lawful water use on properties within the Upper Vaal catchment area.
- Replace all Existing Lawful Use (ELU) with licences with enforceable water use conditions.

### **Activities implemented in support**

- Water Services Regulation has conducted 21 wastewater treatment works inspections.
- Compliance Monitoring conducted Nine (9) compliance monitoring inspections in the Upper Vaal, this is against the issued water use authorizations. Four (4) Agriculture (Amanzi Amakhulu Saldolite, Green Oak Farms Pty Ltd, Magic Lawn and Zelphy), Four (4) Mining (South Deep Gold, Afrisam Brakpan, Silver lakes Colliery and Burn Stone Mine) and One (1) WWTW (Khutsong WWTW).
- Enforcement has conducted 23 investigations for alleged illegal water uses in the Upper Vaal, issued 13 notices of intention to issue a directive and issued 8 directives.

- Investigations conducted on 100% (6) reported non complaint cases (Middlelei, Grass Factory Eco Organics, Amatshe Mining (Pty) Ltd, Warden WWTW, Vusi's Farm and WH Beurain Boerdery).
- Twelve (12) non-compliance notices issued (Cornelia WWTW, Dihlabeng Local Municipality, Double Flash and Jhomain, Morgen WWTW, Multi Green (Pty) Ltd, Rothdene pump-station, WG Wearne Readymix, Farm Koppiesfontein portion 86 Mr Garcia Gustav, Farm Koppiesfontein portion 87 Brian Davies, Farm Koppiesfontein portion 87 Shirita Boerdery, Farm Koppiesfontein portion 88 Kevin Prinsloo, Farm Koppiesfontein portion 88 Shirita Boerdery).
- One (1) directive issued (WH Beurain).
- Twelve (12) follow-up inspections conducted on notices & directives issued within 60 working days (GTG Piggery, OMV Gypsum Plant, Chubby Chick Rendering Plant, Daggasfontein, Di-Thabeng Trucks and Taxi property, Harrismith WWTW, KwaThema Pump station, Rothdene pump station, Tshiame WWTW, Kleinfontein Channel, Luipaardsvlei farm, Manganese Processing Plant).
- Six (6) joint inspections conducted (Henley on Klip - Midvaal Local Municipality, Weltevreden, Ekhuleni Development, Vrede landfill site, Vrede WWTW and OR Tambo).
- Two (2) Enforcement Blitz operations conducted (Weltevreden Farm and Maluti-A-Phufong operation).
- Three (3) enforcement of Verification & Validation file recommendations done (Gatholo Streetwise Resort, Nonyana River Lodge and Farm Tandem Mullerust).
- Six (6) non-compliant wastewater supply systems monitored against regulatory standards (Leeuwkuil WWTW, Flip Human WWTW, Sebokeng WWTW, Oheni Muri WWTW, Kokosi WWTW and Wedela WWTW).
- Thirteen (13) wastewater treatment works inspections conducted (Leeuwkuil, Flip Human, Walmansthal Military Base, Zeekoegat, Ester Park, Toitskraal, Sebokeng, Oheni Muri, CAT military Base, Eye of Africa, Daspoort, Kokosi and Wedela).

## Wastewater Treatment Works Compliance

Gauteng								
	Microbiological		Chemical		Physical		Operational	
	Comply	Monitoring	Comply	Monitoring	Comply	Monitoring	Comply	Monitoring
City of Ekurhuleni	79.5%	76.0%	84.9%	74.0%	94.5%	68.0%	0.0%	48.0%
City of Johannesburg Metropolitan Municipality	48.1%	69.0%	96.7%	80.0%	94.1%	45.0%	0.0%	0.0%
City of Tshwane Metropolitan Municipality	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Eimfuleni Local Municipality	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Lesedi Local Municipality	>99.9%	78.0%	92.6%	73.0%	99.4%	72.0%	0.0%	0.0%
Merafong City Local Municipality	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Midvaal Local Municipality	25.0%	58.0%	28.6%	30.0%	70.8%	27.0%	0.0%	0.0%
Mogale City Local Municipality	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rand West City	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Gauteng</b>	<b>77.9% </b>	<b>62.0% </b>	<b>87.9% </b>	<b>69.0% </b>	<b>94.7% </b>	<b>62.0% </b>	<b>0.0% </b>	<b>28.0% </b>

**SDG 6.4 – Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.**

**Gaps Identified by the Region**

- Development of a web-based water use efficiency monitoring and information management system for all water use sectors (i.e., local government, agriculture, and IMP sectors)

**Interventions**

- Provide support to development of water conservation and water demand management strategies for water sector.
- Collect water balance data and information from municipalities within the Vaal River System.
- Encourage/Ensure all municipalities in Gauteng provide a report on International Water Association (IWA) water balance on monthly basis.

**Activities implemented in support**

- Four (4) municipalities submitted their updated IWA water balance spread sheets (Lesedi Local Municipality, Emfuleni Local Municipality, City of Ekurhuleni and Rand West City Local Municipality).
- One Faecal sludge management workshop was held on the 07 December 2021
- The region also participates in Project 1600 and Project 15% on WCWDM.
- Consultative meetings on IWA water balance with municipalities were held and are continuing.



**SDG 6.5 – Implement integrated water resources management (IWRM) at all levels, including through trans-boundary cooperation as appropriate****Gaps Identified by the Region**

- Little transformation of irrigation boards to WUAs.
- Gender mainstreaming targets still to be achieved.
- Backlog of water use licence applications.
- Support and strengthen the participation of local communities and stakeholders in improving water and sanitation management.
- Data not easily accessible.

**Interventions**

- Transform irrigation boards (IBs) to water user associations (WUAs).
- Increased participation of vulnerable groups in IWRM.
- Develop and implement water resource regulatory prescripts.
- Percentage of applications for water use authorisation finalised within regulated period.
- Integrated regional water monitoring committee meetings to be held quarterly.
- Develop and implement water resource regulatory prescripts - raw water charges developed.
- Vaal Catchment Management Agency (CMA) has been gazetted - consult stakeholders on the extension of the Vaal Water Management Area. Fast track the establishment of the CMA.
- Provide support to Head Office towards the development of the National Digitised Integrated Water and Sanitation Monitoring System.

**Activities implemented in support**

- 114 water use authorisation applications finalised, 62 of these were finalised within regulated time.
- National Digitised Integrated Water and Sanitation Monitoring System meeting attended on 9<sup>th</sup> December 2021.
- Integrated regional water monitoring committee meetings were held quarterly.

## **SDG 6.6 – Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes**

### **Situational Analysis of the Province**

The Upper Vaal management area has a catchment area of 55 565 km<sup>2</sup>. It is located towards the centre of the country extending over the Free State to the confluence of the Mooi and Vaal Rivers, the south east of Mpumalanga and the south west of Gauteng and its southern limit adjoins Lesotho. It consists of the Vaal, Klip, Wilge, Liebenbergsvlei & Mooi rivers and includes the Vaal, Grootdraai and Sterkfontein Dams.

Inter-basin transfers drive the availability and supply of water in this area. There are several large reservoirs in the catchment, including the Sterkfontein Dam, Grootdraai Dam, and the Vaal Dam. The Thukela-Vaal scheme incorporates pumping stations, canals, and a pump storage scheme. Water is transferred from the Thukela basin over the Drakensberg mountains to the Sterkfontein Dam. From here, the water flows into the Wilge River and eventually supplements the yield of Vaal Dam. Water is also transferred from the Slang River in the Thukela WMA into a tributary of the Vaal River upstream of Amersfoort, from there it flows to the Grootdraai Dam. A transfer also takes place from the Heyshope Dam in the Usutu to Mhlatuze WMA into the Little Vaal River, again to supplement the yield of the Grootdraai Dam.

### **Gaps Identified by the Region**

- Severe lack of wetland data. Monitoring of wetland health is currently not being undertaken by DWS with limited wetlands monitored by others.
- Insufficient groundwater level data.
- Compliance to RQOs is not being monitored and reported. This data is not yet collected, stored, and easily accessed for those WMAs that have RQOs.
- Insufficient hydrology (rainfall-runoff) data for rivers, lakes, dams, and estuaries.
- Lack of updated National River Survey.

### **Interventions**

- Implementation of the Wetland Monitoring Programme.
- Attend and provide support to Wetlands Technical Working Group.
- Continue with groundwater water level monitoring at all active boreholes.
- Collected data processed on Hydstra for 100% of active monitoring boreholes.
- Monitor and report on compliance to the water quality RQOs.

- River Ecostatus Monitoring Programme (REMP) to also monitor and report on compliance of Ecological RQOs.
- Monitor and report on compliance to water quantity RQOs.
- Refurbish gauging stations.
- Data collected for 100% of surface water monitoring gauging stations not observed by other offices.
- Collected data processed on Hydstra for 100% of active monitoring gauging stations.
- Maintenance carried out at 84 surface water gauging stations.
- Conduct current gauging measurements in rivers and canals for validation of stage-discharge or velocity-discharge ratings of gauging stations.
- Formalise the use of the Freshwater Biodiversity Information System (FBIS) housed by the Freshwater Research Centre in partnership with SANBI as the official database for REMP.

#### **Activities implemented in support**

- Three (3) rivers were monitored for REMP using SASS 5 – (Taaibosspruit, Vaal and Mooi rivers). Other sites/rivers could not be sampled due to heavy flows and flooding.
- Water quality monitoring was not undertaken as the laboratory contract ended.
- Data collected monthly for 100% (152 boreholes) of active groundwater monitoring boreholes.
- Data collected monthly for 100% (143 stations) of surface water monitoring gauging stations not observed by other offices.
- 75% of scheduled water quality grab samples collected.
- 75% of collected data was processed for active groundwater monitoring boreholes (HYDSTRA).
- 82% of collected data was processed for active surface water monitoring gauging stations (HYDSTRA).
- Maintenance carried out at fourteen (14) surface water gauging stations.
- Seven (7) current gauging measurements conducted.
- Six (6) calibration reports produced for flow stations.
- Seven (7) evaluation reports produced for assessment of flow stations condition.
- Three (3) meteorological stations evaluation reports produced.
- Three (3) groundwater data evaluation reports produced (Meyerton, Westrand and Grootfontein).

## Blue Deal projects in the Upper Vaal



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- Vredeforte Dome World Heritage Site (Manage pollution of Vaal River - contribute to world heritage site status).
- Blesbokspruit Ramsar Site (Montreal protocol) (protection of the wetland – contribute to RAMSAR site status).
- Promote local economic development.

## **SDG6.b - Community Participation**

### **Activities implemented in support**

- Water and Sanitation forums were established in the Gauteng Province within municipalities where service delivery protests were prevalent. The forums were established to ensure public participation of stakeholders in water management and sanitation provision.
- These forums assist to ensure two-way flows of information about provision of reliable water and sanitation services information to different communities. The information includes issues related to envisaged developments/plans, progress on water and sanitation programmes and challenges.
- The forums were established for the following Municipalities:
  - o City of Johannesburg
  - o City of Tshwane
  - o City of Ekurhuleni
  - o Emfuleni Local Municipality

### **COVID-19 Intervention: Tanks installed in municipalities by DWS**

<b>Municipality</b>	<b>Tanks delivered</b>	<b>Tanks installed</b>	<b>Tankers delivered</b>
1. City of Ekurhuleni	212	200	10
2. City of Johannesburg	441	384	0
3. City of Tshwane	547	470	15
4. Emfuleni LM	190	158	6
5. Lesedi LM	50	49	4
6. Midvaal LM	34	20	2
7. Merafong City LM	340	340	7
8. Mogale City LM	420	320	3
9. Rand West City LM	20	20	0
<b>TOTAL</b>	<b>2 254</b>	<b>1 961</b>	<b>47</b>

**5 CONCLUSION**

The Gauteng Regional Office has implemented the actions that are set out in the Provincial Action Plan and will continue to do so to succeed in its overall progress towards reaching the 2030 SDG 6 Goals.

However, there are some challenges to implement the actions identified from the Gap Report; such as human resources and financial constraints. Therefore, additional resources would be required to address some of the gaps identified.

25/01/2022

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**Ms ND Mabe**  
**Acting Provincial Head: Gauteng**

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**Date**