



**APOLOGIES:**

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Pieter Viljoen	PV	DWS D:WRPS	Water Quality
Peter Flower	PF	City of Cape Town	D: Water and Sanitation
Zolile Basholo	ZB	City of Cape Town	WC/WDM Strategy
Thembi Masilela	TM	DWS RO Bellville	D: Water Sector Support
Simpiwe Mashicila	SM	DWS RO Bellville	Programme Manager RBIG
Penina Sihlali	PS	DWS RO Bellville	RBIG
Mike Smart	MS	DWS RO Bellville	Groundwater
Wilna Kloppers	WK	DWS RO Bellville	Resource Protection
Derril Daniels	DD	DWS RO Bellville	Berg-Olifants WMA
Mike Killick	MK	Aurecon	

**MINUTES:**

ITEM	DETAIL	ACTION	TIME
<b>1</b>	<b>Welcome and Introduction</b>		
	<p>IT welcomed all to the first ATSG meeting of the year. She hoped all are well rested after the Christmas holiday. IT then explained that the focus of this meeting is to discuss the agricultural allocations from the system, so that the correct numbers are used in the water requirement scenarios and reconciliation strategy.</p> <p>She further emphasised that this is not only required for the reconciliation strategy but also for the City of Cape Town (CCT) and the Infrastructure Branch (NWRIM) to optimally operate the dams and to determine whether and when restrictions are required. This requires good, accurate data. The DWS regional office also requires confirmation of current allocations to evaluate the current licence applications and to establish whether more licenses can be issued. Currently the system is getting to a stage where it is nearing being in balance and therefore a new augmentation scheme will need to be implemented if the use cannot be reduced. IT stated that Cape Town has done well in cutting down its water use and wastage although there has been a large increase in the number of people that have obtained access to water.</p> <p>IT stated that the agriculture sector in Cape Town is a relatively small user of the system. This is not the case for the other large water supply systems. However, agricultural use is not properly measured currently and therefore their efficiency is unknown. No matter how small a user, their use need to be measured. Workshops have been set up to inform farmers about using meters but a way to enforce it needs to be formulated.</p>		

ITEM	DETAIL	ACTION	TIME
2	<b>Attendance and Apologies</b>		
	The attendance at the meeting was noted in the attendance register. Apologies were noted on the register. The attendance register is attached (see Appendix A).		
3	<b>Minutes of ATSG #6, 26 November 2014</b>		
3.1	Approval of minutes The minutes were approved with the following corrections: Page 1 – Nicolette Vermaak's abbreviation is corrected to NV. Page 2 – The Berg-Olifants WMA affiliation is added to DD and NdB under apologies. Page 4 – The first paragraph should read: <i>IT also agreed and stated that no matter how small the volume of water is, it needs to be included in the model to know the actual balance of the system. KR noted that at the moment there is an assumption made for these extra sources but the actual volumes and yields are needed. BvZ stated that he can supply the dam levels of these sources but not the flow from them and that once Paarl is registered correctly with WARMS, the numbers can be brought into the water balance.</i> Page 4 – Add a sentence at the end of paragraph 3, reading: <i>It must however be monitored.</i> BvZ queried the statement in paragraph 3 about the current operation of the Palmiet Scheme by Eskom and stated that that is currently the best way to manage the Palmiet Scheme. ASp noted that there is some allowance in the model for extraction from the Berg River in Paarl/Wellington, 0.9 million m <sup>3</sup> /a abstraction, 8.9 million m <sup>3</sup> /a return flow from the WWTW. KR confirmed that this was discussed at the last ATSG meeting. IT noted that ASch would have to represent agriculture in the meeting about the agriculture allocations. IT signed the approved minutes. A scanned version of the signed corrected minutes will be made available for the project website.	PSP	Mar '15
3.2	Matters arising IT noted that all matters are covered in the agenda but that the main purpose of the meeting is to discuss water allocation. RH confirmed that actions relating to the Berg River spatial mapping are currently being addressed. PR asked if the No Drop Audit can be discussed because there are a number of different targets that can be used. IT noted that the Reconciliation Strategy could be used as a starting point but fixed numbers need to be committed to by all. She suggested that this be discussed under item 5.1 CCT studies.		

ITEM	DETAIL	ACTION	TIME
4	<b>Water Availability and Water Allocation</b>		
	<p>KR handed out a table which illustrates the current understanding of the allocations and the current (2013/14) use. The queries to be discussed are about the interpretation of the Berg River Water Project agreement between the CCT and DWS, and where new allocations and requirements fit in. The table and the presentation are attached as Appendix B.</p> <p>KR explained that in the current model and water requirement scenarios the total allocation is 584.1 million m<sup>3</sup>/a, which is made up of domestic allocations of 410.5 million m<sup>3</sup>/a and the capped agriculture allocation of 173.6 million m<sup>3</sup>/a. The capped agriculture allocation needs to be unpacked to understand how it is made up and hopefully ASp can help with that.</p> <p>KR stated that the capped volume is made up of allocations from Voëlvlei Dam &amp; Misverstand (Lower Berg IB) and Theewaterskloof Dam &amp; Berg River Dam (Riviersonderend part, Overberg Water, Upper Berg River IB, tunnel, Wynlands WUA and summer streamflow in the Berg River).</p> <p>KR highlighted the discrepancies between the currently used numbers for the Riviersonderend part, Overberg Water and the summer streamflow and the Berg River Water Project agreement. Overberg Water provides water for domestic use so it shouldn't be grouped under the agriculture allocation. IT asked where Overberg Water extracts the water. KR replied, that the two abstraction points are downstream of the Theewaterskloof Dam.</p> <p>BvZ stated that Overberg Water is registered incorrectly on the WARMS database with 1.5 million m<sup>3</sup>/a for agriculture and 1.4 million m<sup>3</sup>/a for domestic use. They only have a permit for 3 million m<sup>3</sup>/a but can grow to 4 million m<sup>3</sup>/a. GvZ commented that stock watering is still agriculture but not irrigation; hence, it would require a different level of assurance and level of restriction. KR stated that the BWP agreement shows that up to 4 million m<sup>3</sup>/a is allocated as releases from the dam, while the license for abstraction is for only 3 million m<sup>3</sup>/a. The same applies for the West Coast DM, where the licensed volume differs from the allocation from the dam.</p> <p>It was agreed that 4 million m<sup>3</sup>/a is the correct number to be used for the allocation to Overberg Water from the Theewaterskloof Dam. It was further agreed that this should be reported under domestic use and not lumped into the agriculture allocation.</p> <p>GvZ stated that the additional run-off from the tributaries into the Riviersonderend River below the Theewaterskloof Dam are unknown. Hence, it is not possible to undertake a proper water balance for that section of the system.</p> <p>WE stated that there is no charge for stock watering because it is considered Schedule 1 use. He added that the WARMS registration is now irrelevant in the Breede region because there are new figures available from the Verification &amp; Validation process recently completed by the Berg-Gouritz CMA. He stated that it is important to be consistent where to account for the losses, at the end or along the way, because it could result in double counting.</p>	<p>PSP</p>	

ITEM	DETAIL	ACTION	TIME
	<p>KR stated that 18.1 million m<sup>3</sup>/a is allocated for releases from the Voëlvlei Dam for the Lower Berg River IB. WE noted that the farmers are allowed 7000 m<sup>3</sup>/ha/a and that if they start developing further then the allocation of 18.1 million m<sup>3</sup>/a will grow to 18.2 million m<sup>3</sup>/a without provision for losses. He stated that the BWP agreement caters for 3000 m<sup>3</sup>/ha/a from Voëlvlei Dam but the allocation is actually 5000 m<sup>3</sup>/ha/a.</p> <p>ASch stated that the original gazette states that 3000 m<sup>3</sup>/ha/a is available in summer and 4000 m<sup>3</sup>/ha/a in winter, which was amended to 7000 m<sup>3</sup>/ha/a throughout the year. She then asked if the full allocation is taken up in summer. WE agreed that it is not 7000 m<sup>3</sup>/ha/a in summer and another 7000 m<sup>3</sup>/ha/a in winter. He stated that irrigation doesn't happen between July and October and that about 80% of the irrigation requirement is used in summer. He added that the farmers are drawing water from the river before releases from Voëlvlei Dam are required. BvZ stated that they look at the maximum supply to the Lower Berg River IB historically but currently they are releasing 2.5 million m<sup>3</sup>/a from Voëlvlei Dam and 2.5 million m<sup>3</sup>/a from the Berg River Dam. WE agreed but stated that the total needs to come from the system.</p> <p>KR asked whether the additional water will have to come from the capped volume of 173 million m<sup>3</sup>/a for agriculture use. WE replied that the capped volume needs to be revised. IT asked if they are using more or less than the allocation. KR replied that the releases from Voëlvlei Dam are already higher than the allocations.</p> <p>WE stated that what saves the system is the variability of the supply requirements; e.g. in one year the Upper Berg IB uses 10 million m<sup>3</sup> and in the next year 50 million m<sup>3</sup>. That is the reason why a moving average of 5 years is used to bill the agricultural sector. GvZ noted that a short winter can still supply the average rainfall but it will cause problems to the system; e.g. last year water had to be added to the river in October but the year before it was only needed in December. IT added that if the dams don't filled up totally in normal years, a drought situation could result in severe restrictions. WE disagreed and stated that there had been 3 dry years in a row and the systems is still in balance. IT commented that we need a scenario that looks at the worst case.</p> <p>KR stated that, based on these discussions, the capped volume needs to be changed and how to report against it. He queried the inclusion of summer streamflow as it is not clear in the agreement and how is it measured and reported on. ASp stated that the agreement covers costs and summer streamflow water is for free because it was there prior to the Berg River Dam being built. WE agreed and stated that it is the same as Wemmershoek Dam, where the first volume is for free, as compensation. ASp noted that the agreement was only on pricing and therefore this "compensation water" would not be included in it.</p> <p>BvZ stated that the City of Cape Town pays for that water because it is meant to be released from Wemmershoek Dam but now gets released from Theewaterskloof Dam. The compensation releases include the 9.6 million m<sup>3</sup>/a from Wemmershoek Dam and the 16 million m<sup>3</sup>/a from Berg River Dam.</p>	<p>PSP</p>	

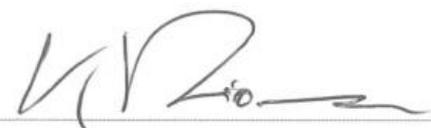
ITEM	DETAIL	ACTION	TIME
	<p>KR stated it appears that this is included in the quotas for abstraction but not in the agricultural allocation of releases from the dam. WE stated that the allocation includes the compensation but not for the Berg River because it is not billed. BvZ stated that the 16.5 million m<sup>3</sup>/a for the ecological Reserve release is included in the 81 million m<sup>3</sup>/a of the CCT allocation.</p> <p>WE noted that in the past there were no releases made for the ecological Reserve and farmers used the low flow in the river, but now there is a Reserve determined and implemented, and the farmers still use the low flow. It should therefore form part of their allocation to avoid double counting.</p> <p>ASp displayed a table comparing capped values in the model, allocations from the BWP agreement and proposed future values. He explained that the 16.5 million m<sup>3</sup>/a is included in the capped agriculture allocation for the model but not billed and listed in the BWP agreement, while the 10.4 million m<sup>3</sup>/a irrigation surplus from the BWP agreement is not included in the model as it is available for additional allocations. KR stated that part of the irrigation surplus of 10.4 million m<sup>3</sup>/a is already allocated with the approved licenses for 8.6 million m<sup>3</sup>/a, and is double counted with the allocation of 28 million m<sup>3</sup>/a for Cape Town, which is now deemed to be fixed. However, according to the BWP agreement, this is a temporary allocation that includes the 10.4 million m<sup>3</sup>/a and that it will be reduced once agriculture takes up their full allocation. WE stated that currently water given to Cape Town is unauthorized. He stated that farmers had the historical rights and bought water rights from the Theewaterskloof Dam but the allocation was reduced from 180 million m<sup>3</sup>/a to 110 million m<sup>3</sup>/a because of higher assurance level. He added that there is more water available if we reduce the assurance level.</p> <p>IT stated that there do seems to be an over allocation. ASi commented that the DWS is ignoring the agreement that was drawn up; it explains the procedure of allocations. WE stated that the system isn't working well and that the compulsory licensing has not been initiated yet.</p> <p>BvZ stated that Cape Town is the only group paying for the Berg River Dam, they pay R20 million a month. He added that their allocation is based on previous government scheme allocations and agreed with ASi that a legal document cannot be ignored. WE stated that everyone agreed on the newly approved licenses and that this allocation of 8.6 million m<sup>3</sup>/a is now part of the agricultural allocation. The 20 million m<sup>3</sup>/a additional releases is part of winter water but there must be a difference between summer and winter water even though the farmers are measured in total per annum. He added that the DWS should not issue any more licenses, then there will be 2 million m<sup>3</sup>/a in the bank.</p> <p>KR commented that if the additional 20 million m<sup>3</sup>/a releases and the 8.6 million m<sup>3</sup>/a of the approved licenses is added to the current allocations then agriculture would be allocated a total of 198 million m<sup>3</sup>/a which is 25 million m<sup>3</sup>/a more than the capped value currently used. WE commented that the 8.6 million m<sup>3</sup>/a won't be in historical records because it is only commencing this year.</p>		

<b>ITEM</b>	<b>DETAIL</b>	<b>ACTION</b>	<b>TIME</b>
	<p>KR replied that the requirement scenarios are based on growth into full allocation, therefore 198 million m<sup>3</sup>/a instead of the capped 173 million m<sup>3</sup>/a. IT noted the different assurance level for agriculture; hence, the 198 million m<sup>3</sup>/a may not be provided at 98% assurance of supply. WE agreed but stated it will be at least 191 million m<sup>3</sup>/a.</p> <p>RH commented that if compulsory licencing could take 10 – 20 years, then ASi is correct that the previous agreement is binding. IT stated that the agreement was in place before the additional licences were granted. ASi noted that the various assurance levels need to be modelled and that the results must be communicated to the relevant users and stakeholders. WE agreed and stated that agriculture should be told sooner rather than later that they will not have 98% assurance of supply on their allocation.</p> <p>WE commented that farmers have fewer losses on their farms than the CCT. GvZ stated that managing and enforcing restrictions for the agricultural sector is a problem because they have usually less water available in their farm dams and require more water during summer. WE stated that farmers manage their farms as a unit, first use water from their own dams and then the higher paying water from the river afterwards. He noted that there is a lot of water abstracted on the tributaries, almost the same volume as from the Berg River. This impacts on the water availability from the system as a whole.</p> <p>ASp commented that the model takes into account the seasons and rainfall volumes. IT questioned if the model properly accounts for the farm dams and abstractions on the tributaries. RH added that in the Berg WAAS (2009) all farm dams were mapped. GvZ stated that the yields of the dams are unknown. IT stated that planning must include the worst case. It needs to be based on real volumes that are as close to reality as possible.</p> <p>GvZ questioned whether we know how much is going from the Upper to the Lower Berg River. BvZ replied that this is measured at Zonkwas Drift. He added that another weir is going to be installed below the Misverstand Weir because too much water is going through and an exact volume is needed to manage the releases.</p> <p>IT question what is happening with the verification &amp; validation process in the Lower Berg area. ASch stated that project is on hold at the moment due to budgeting issues. WE commented that it got close to finding the exact figures but then got put on hold. He added that the irrigation board was supporting the verification. The most important need is to manage summer flows.</p> <p>IT commented that any new licenses must be included in the model. WE added that there is a new database like WARMS for licenses.</p> <p>WE stated that the Upper Berg River Main IB quotas are working well. He noted that the problem is the Lower Berg River IB because of the difference between quotas and allocations and the high river losses. This is why the abstraction by the Lower Berg River IB needs to be measured. IT agreed and stated that is where there might be higher illegal abstractions. WE commented that farmers use their winter water in summer.</p>		



ITEM	DETAIL	ACTION	TIME
<b>5</b>	<b>Update of current studies</b>		
5.1	<p>CCT Studies</p> <ul style="list-style-type: none"> <li>• Desalination                     <p>PR noted that the additional work that the CCT requested is being wrapped up. It will be reported on in March, so it can be presented at the next SSC meeting in April. He noted that the originally planned capacity of 450 Ml/day might be too high for the system.</p> </li> <li>• Water Reclamation                     <p>Aurecon is doing the study, looking at various options and focusing on a smaller group of options. They are monitoring waste water and will have a draft report ready by mid-year 2015.</p> </li> <li>• TMG Aquifer                     <p>The CCT aims to report to the Utilities Committee by 16 or 23 February 2015 for final approval for the study to go ahead. PR stated that hopefully by the end of the month they will have an answer on how the CCT will continue with the current appointment.</p> </li> <li>• Lourens River                     <p>The study will commence by mid-year 2015. NdB questioned if the study is bigger than the previous stormwater study. PR confirmed this.</p> </li> <li>• Cape Flats Aquifer                     <p>IT commented that the co-operation between departments is positive. PR stated that it looks good for the aquifer to be used for other uses instead of bulk supply. He added that the CCT is looking at how the aquifer can be used in future schemes.</p> </li> <li>• Atlantis Aquifer                     <p>Currently the boreholes are being reconditioned which has resulted in a lower production capacity during the maintenance. They are therefore using more water transferred from the Voëlvlei Dam which has emphasized that you cannot do without using the aquifer. BW stated that there is a new superintendent of the wellfield because previously not enough monitoring was done but they are optimistic that it will be sorted out because the water levels are higher than ever.</p> </li> <li>• No Drop Audit                     <p>PR mentioned that he has to submit the report the next day but he is unsure which target to use from the Reconciliation Strategy for the City. KR stated that the latest status report used the high and low growth scenarios the CCT's WDM Strategy 2013, while the annual report to TCTA used the low growth scenario. PR stated that he will use those but he doesn't think he should use the Reconciliation Strategy target. KR stated that the Reconciliation Strategy target is for planning and therefore has a high and low growth rate.</p> </li> </ul>		

ITEM	DETAIL	ACTION	TIME
5.2	DWS studies <ul style="list-style-type: none"> <li>• Voëlvlei Dam Augmentation The EIA appointment has still not been completed because it needs approval from top management but the committee keeps changing.</li> <li>• Langebaan Aquifer FF stated that negotiations are ongoing and hopefully there will be something to present at the next meeting.</li> </ul>		
<b>6</b>	<b>General</b>		
	<ul style="list-style-type: none"> <li>• Annual Operations Maintenance No restrictions this year</li> <li>• Establishment of the Berg/Olifants CMA A draft business case is underway; hopefully something will be done by the end of the year.</li> </ul>		
<b>9</b>	<b>Next meetings of ATSG and Closure</b>		
	IT suggested that the next SSC meeting be moved to the second half of April or early May 2015 because the DWS is busy with financial year end issues until the end of March 2015. She will confirm possible dates in due course. The next Support Group Meeting could then be 2 weeks after that.  After meeting note: The next ATSG meeting was scheduled for <b>25 March 2015</b> .  IT then thanked everyone for making the time available and helping to make sense of the allocations.		

**SIGNATURE ORIGINATOR**


Umvoto Africa

25 March 2015

Date

**SIGNATURE DEPARTMENT OF WATER AND SANITATION**


D: NWRP

25 March 2015

Date

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Simphiwe Mashicila	SM	DWS RO Bellville	Water Sector Support
Penina Sihlali	PS	DWS RO Bellville	RBIG
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**Appendix A:**


**SUPPORT TO THE CONTINUATION OF THE WATER RECONCILIATION STRATEGY FOR THE WESTERN CAPE WATER SUPPLY  
 SYSTEM – ADMINISTRATIVE AND TECHNICAL SUPPORT GROUP MEETING #7 – 02 FEBRUARY 2015**

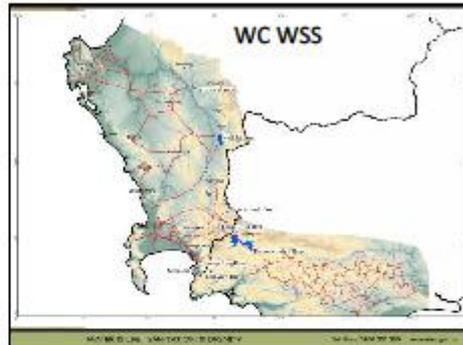
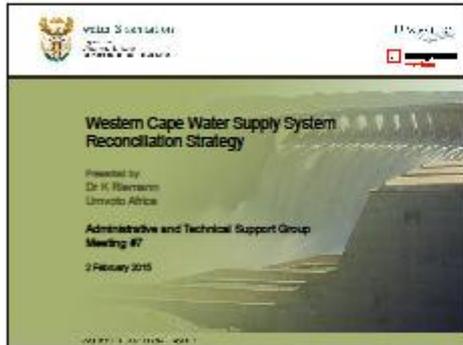
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Appendix B:

3/26/2015



**"Are we comparing apples with pears?"**

• Total System Yield:	596.0 million m <sup>3</sup> /a
– Berg WAAS (2009)	
• Total Allocations:	584.1 million m <sup>3</sup> /a
– Several legal agreements	
– Possible double-counting	
• 2013/2014 Water use:	508.1 million m <sup>3</sup> /a
– Domestic water use:	338.1 million m <sup>3</sup> /a
– Agricultural water use:	~ 160.0 million m <sup>3</sup> /a
– Agriculture capped:	170.0 million m <sup>3</sup> /a

**"Apples and Pears"**

• Total Allocations:	584.1 million m <sup>3</sup> /a
– Domestic use allocation	410.5 million m <sup>3</sup> /a
– Agricultural use allocation	173.6 million m <sup>3</sup> /a

**Report: Allocations from WCWSS**

• City of Cape Town:	385.9 million m <sup>3</sup> /a
• West Coast DM	
– Witvoogte Misverstand:	17.44 million m <sup>3</sup> /a
– Swartland Voëlvllei:	4.20 million m <sup>3</sup> /a
• Stellenbosch LM:	3.00 million m <sup>3</sup> /a
• Agriculture:	173.6 million m <sup>3</sup> /a
• Total Allocation:	584.1 million m <sup>3</sup> /a

**Agricultural Allocation**

• Voëlvllei & Misverstand	
– Lower Berg IB:	18.1 million m <sup>3</sup> /a
• Theewaterskloof Dam	
– Riviersonderend part:	45.2 million m <sup>3</sup> /a
– Overberg Water:	4.0 million m <sup>3</sup> /a
– Upper Berg River IB:	58.6 million m <sup>3</sup> /a
– Tunnel and pipeline:	30.2 million m <sup>3</sup> /a
– Summer streamflow:	16.5 million m <sup>3</sup> /a
• Total capped:	173.6 million m <sup>3</sup> /a
• Total excl. Overberg:	169.6 million m <sup>3</sup> /a

### Queries

- Compensation from Eerste River to "lei-vore": recorded?
- How is summer streamflow compensation recorded?
- How is split of releases between Zonderend IB and Overberg Water calculated?
- How is split of releases between Lower Berg IB and West Coast DM calculated?



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### Allocations from WCWSS

- City of Cape Town: 385.9 million m<sup>3</sup>/a
  - Incl. Berg River Dam
- West Coast DM
  - Withoogte Misverstand: 18.60 million m<sup>3</sup>/a
  - Swartland Voëlvllei: 4.20 million m<sup>3</sup>/a
- Stellenbosch LM: 3.00 million m<sup>3</sup>/a
- Overberg Water: 4.00 million m<sup>3</sup>/a
- Piketberg and PPC: 1.50 million m<sup>3</sup>/a
- Agriculture: 169.6 million m<sup>3</sup>/a
- **Total Allocation: 586.8 million m<sup>3</sup>/a**



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### Other Allocations to consider

- Allocations to consider, as they impact on water availability in the WCWSS
  - Paarl from Berg River (run-of-river)
  - Agriculture from Klein Berg River
  - Tulbagh and Wolseley from Klein Berg River
  - 24-Rivers IB from 24-Rivers and Leeu River



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### Additional requests

- Licence applications for
  - CCT full allocation of Berg River Dam yield
  - CCT temporary allocation from Theewaterskloof Dam
  - WC DM increase in allocation from Voëlvllei Dam
- Licence applications for agricultural use above capped volume
- Request for additional releases from Voëlvllei Dam for Lower Berg IB



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### Cape Flats Aquifer

- Departments met:
  - Bulk Water Supply (Paul Rhode and Barry Wood)
  - Spatial Planning (Marco Geretto)
  - Stormwater and Sustainability (Rod Arnold and Franz von Moltke)
  - Parks Planning and Development (Bradley Burger)
  - City Parks Gugulethu (Mzwandile Peter)
  - Cape Flats District (Margot Muller)
  - Khayelitsha and Mitchell's Plain District (Charles Rudman and Gerhard Hanekom)
  - Coastal Zone Management (Darryl Colenbrander)
  - Solid Waste (Peter Novella and Stephan Morkel)



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### Cape Flats Aquifer

- Departments still to meet:
  - Water Conservation and Demand Management (Collin Mubadiro)
  - Community Services (Susan Brice)



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3/26/2015

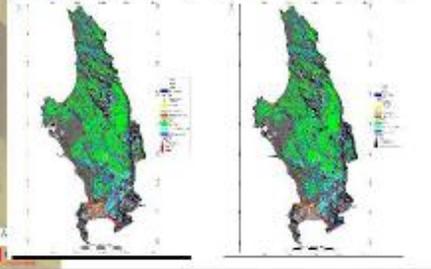
### Cape Flats Aquifer

- General remarks:
  - See the huge potential of the CFA
  - Main use for irrigating parks, school fields and community vegetable gardens
  - Possible use to help with dune management and nodal development along the coastline
  - To succeed it needs to be in partnership with the local communities – champions to run it and prevent theft and vandalism
  - Pilot study – school in Khayelitsha that hosted a matriculate student with 100% for maths, ornamental gardens in Gugulethu, community vegetable gardens in Gugulethu, Khayelitsha and Mitchell's Plain.



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### Berg River Geospatial Water Quality




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### Berg River Geospatial Water Quality

- Requirements:
  - Water quality data
    - Trace metals (Cd, Pb, Cr, Mo, Cu, Zn, V, Ni, Se, As, Co)
    - Ecol
    - Organics (chlorpyrifos and endosulfan)
- Contacts tried:
  - Zayed Brown
  - Jason Mingo
  - Marie Kunneke
  - Joy Leaner
  - Amina Sulaiman
  - Hadjira Peck



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