


**water & sanitation**  
 Department of Water and Sanitation  
 REPUBLIC OF SOUTH AFRICA

## Western Cape Water Supply System Reconciliation Strategy

Presented by:  
 Dr K Riemann  
 Umvoto Africa



Administrative and Technical Support Group  
 Meeting #9

14 May 2015

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

## Allocations from WCWSS

- **Allocations (Status Report): 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
- **Allocations (revised): 611.5 million m<sup>3</sup>/a**
  - Domestic use allocation 391.3 million m<sup>3</sup>/a
  - Agricultural use allocation 220.2 million m<sup>3</sup>/a
- **Availability (Yield): 582 million m<sup>3</sup>/a**



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

## Domestic Allocations

- **City of Cape Town: 357.9 million m<sup>3</sup>/a**
  - Temporary volume: 28.0 million m<sup>3</sup>/a
- **West Coast DM: 22.8 million m<sup>3</sup>/a**
- **Drakenstein LM: 2.1 million m<sup>3</sup>/a**
- **Stellenbosch LM: 3.0 million m<sup>3</sup>/a**
- **Overberg Water: 4.0 million m<sup>3</sup>/a**
- **Piketberg & PPC: 1.5 million m<sup>3</sup>/a**
- **Total domestic allocations 391.3 million m<sup>3</sup>/a**



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## Agricultural Allocations

- **Voëlvlei & Miverstand**
  - Lower Berg IB: 18.1 million m<sup>3</sup>/a
  - Additional licences: 16.7 million m<sup>3</sup>/a
  - Additional releases: 9.1 million m<sup>3</sup>/a
- **Theewaterskloof Dam**
  - Riviersonderend part: 71.0 million m<sup>3</sup>/a
  - Upper Berg River IB: 58.6 million m<sup>3</sup>/a
  - Wynlands & Banhoek: 30.2 million m<sup>3</sup>/a
  - Summer streamflow: 16.5 million m<sup>3</sup>/a
- **Total Agriculture: 220.2 million m<sup>3</sup>/a**



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

## Agricultural Allocations Lower Berg River IB

Water User	Quota (m <sup>3</sup> /ha/a)	Area (ha)	Volume permitted	River losses / compensation	Allocated volume from WCWSS
Lower Berg IB – Summer BWP	3,000	3,644	10.93	3.60	18.10
Lower Berg IB – Summer Request	2,000	3,644	7.29	1.82	9.11
Lower Berg IB – Summer remaining	2,000	3,644	7.29	-	-
Lower Berg IB - Winter	7,000	2,302	16.11	-	-
Additional licenses	7,000	1,255	10.86	2.72	13.58
Boerderies	7,000	360	2.52	0.63	3.15



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## Agricultural Allocations Upper Berg River Main IB

Water User	Quota (m <sup>3</sup> /ha/a)	Area registered	Volume registered	River losses / compensation	Allocated volume from WCWSS
Berg River IB (quota 1)	4,000	3,428	13.71		
Berg River IB (quota 2)	5,000	4,460	22.30		
Berg River IB (quota 3)	6,000	2,991	17.94		
Noord-Agter Paarl IB	5,000	870	4.35		
Suid-Agter Paarl IB	4,000	867	3.47		
Perdeberg IB	5,000	1,324	6.62		
Simondium IB	4,000	243	0.97		
Simonsberg IB	4,000	125	0.50		
Groenberg IB (Distr 1)	5,000	190	0.95		
Groenberg IB (Distr 1)	5,000	82	0.41		
Riebeek Kastel IB	6,000	224	1.34		
Riebeek Wes IB Distr 1	6,000	135	0.81		
Riebeek Wes IB Distr 2	6,000	135	0.81		
<b>Total</b>		15,074	74.19		
<b>Total Summer Allocation BWP</b>		<b>15,174</b>	<b>74.90</b>	<b>(-) 16.3</b>	<b>58.6</b>
<b>Total Winter Allocation</b>		<b>1,074</b>	<b>5.94</b>		



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### Agricultural Allocations Zonderend and Vyeboom

Water User	Quota (m <sup>3</sup> /ha/a)	Area (ha)	Volume permitted	River losses	Allocated volume from WCWSS
Zonderend IB – Summer, BWP	6,000	4,452	26.71	1.60	28.31
Zonderend IB – Summer, V&V	6,000	1,566	9.40	0.56	9.96
Compensation				3.19	3.19
Zonderend IB – Winter	8,000	1,389	11.11	-	
Vyeboom IB + Pump from Twk	7,100	4,156	29.51	-	29.51



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

### Agricultural Allocations Zonderend and Vyeboom

- Zonderend IB
  - 1981 White Paper 23.5 million m<sup>3</sup>/a
  - 2003 BWP Agreement 31.5 million m<sup>3</sup>/a
  - 2015 V&V results 41.5 million m<sup>3</sup>/a
- Vyeboom IB and TWK
  - 2003 BWP Agreement 14.7 million m<sup>3</sup>/a
  - 2015 V&V results 29.5 million m<sup>3</sup>/a



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### Agricultural Allocations Wynlands WUA & Banhoek IB

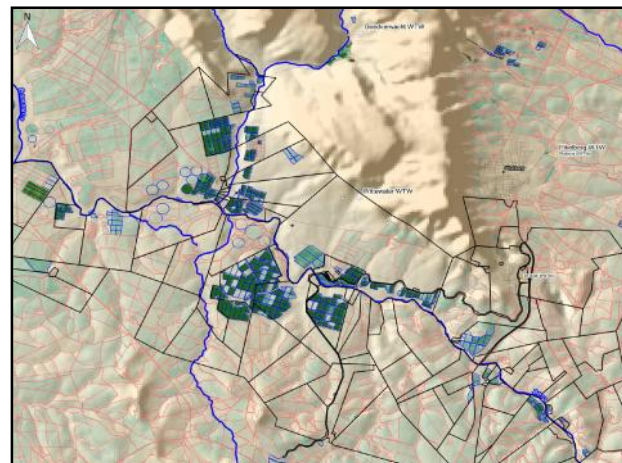
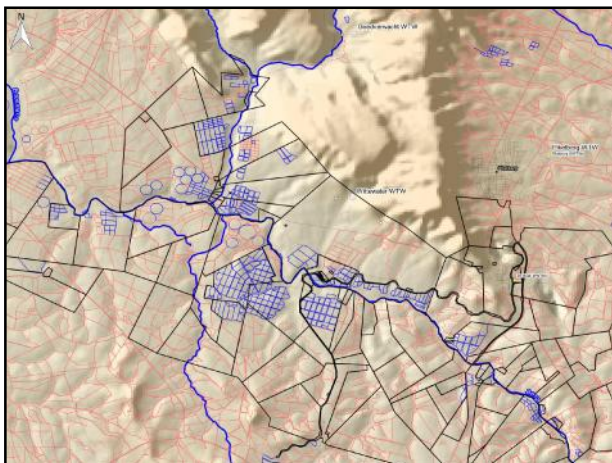
Water User	Quota (m <sup>3</sup> /ha/a)	Area (ha)	Volume permitted	Losses	Allocated volume from WCWSS
Wynlands WUA : Stellenbosch District	4,000	3,010	12.04	-	12.04
Wynlands WUA : Helderberg District	4,000	2,978	11.91	-	11.91
Wynlands WUA : Eerste Rivier District	4,000	514	2.06	1.04	3.10
Eerste Rivier Leiwater releases			1.20	-	1.20
Banhoek IB	4,000	450	1.80	-	1.80
Dasbos outlet			0.18	-	0.18

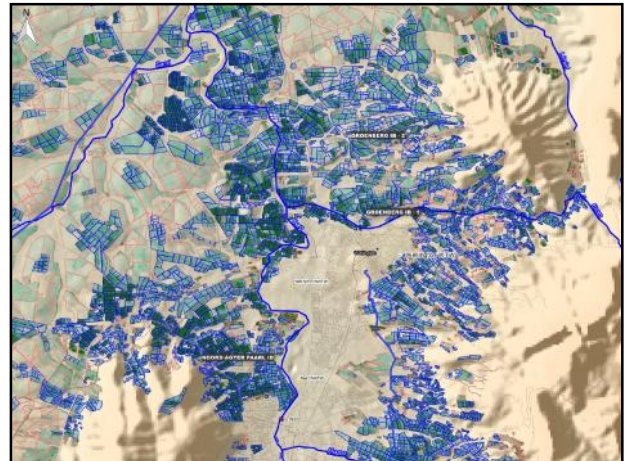
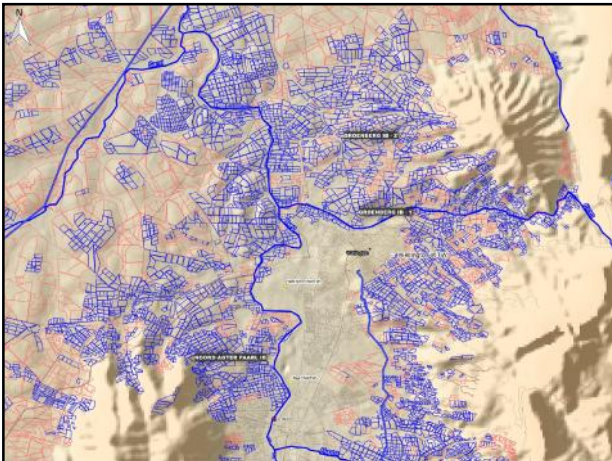


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### Scheduled area under irrigation

- Boundaries of irrigation boards
  - Lower Berg IB
- Information by Dept of Agriculture
  - Fields under irrigation
- Landsat imagery Dec 2014
  - NDVI



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### Conclusions

- Total allocations of 611.5 million m<sup>3</sup>/a exceed system yield of 582 million m<sup>3</sup>/a
- Agricultural allocations exceed previous capped volume of 173.6 million m<sup>3</sup>/a
- Temporary allocation to CCT fully allocated to agriculture and not available for CCT
- Next intervention is required earlier than estimated in Status Report 2014



### Recommendations

- Clarify outstanding queries regarding allocations
- Verify actual area under irrigation and water use by agriculture for all irrigation boards
- Determine equivalent allocation under different Assurance of Supply
- Update WRYM and WRPM
- Expedite the implementation of the next intervention

