



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


UMVOTO

WorleyParsons

Western Cape Water Supply System Reconciliation Strategy

Presented by:
 Dr K Riemann
 Umvoto Africa

Administrative and Technical Support Group
 Meeting #8

25 March 2015

WATER IS LIFE - SANITATION IS DIGNITY



Allocations from WCWSS

- **Allocations (Status Report): 584.1 million m³/a**
 - Domestic use allocation **410.5 million m³/a**
 - Agricultural use allocation **173.6 million m³/a**
- **Allocations (revised): 604.7 million m³/a**
 - Domestic use allocation **419.3 million m³/a**
 - Agricultural use allocation **183.4 million m³/a**

WATER IS LIFE - SANITATION IS DIGNITY Toll Free: 0800 200 200 www.dws.gov.za

Domestic Allocations

- City of Cape Town: **385.9 million m³/a**
 - Fixed volume: **357.9 million m³/a**
 - Temporary volume: **28.0 million m³/a**
- West Coast DM: **22.8 million m³/a**
- Drakenstein LM: **2.1 million m³/a**
- Stellenbosch LM: **3.0 million m³/a**
- Overberg Water: **4.0 million m³/a**
- Piketberg & PPC: **1.5 million m³/a**
- **Total domestic allocations 419.3 million m³/a**

WATER IS LIFE - SANITATION IS DIGNITY Toll Free: 0800 200 200 www.dws.gov.za

Domestic Allocations

User	Licensed / permitted abstraction	Allocation from WCWSS	Allocation from own sources
City of Cape Town *)	398 700 000	385 900 000	12 800 000
West Coast DM	23 140 000	22 800 000	1 350 000
Drakenstein **)	3 177 000	2 109 000	1 068 000
Stellenbosch **)	11 125 000	3 000 000	8 125 000
Overberg Water	3 000 000	4 000 000	-
Piketberg and PPC	1 500 000	1 500 000	-
Urban total	440 642 000	419 309 000	23 343 000

*) Including full allocation from Berg River Dam and temporary allocation from Theewaterskloof Dam
 **) Excluding the supply via CCT and or WC DM

WATER IS LIFE - SANITATION IS DIGNITY Toll Free: 0800 200 200 www.dws.gov.za

Domestic Allocations City of Cape Town

Resource Name	Ownership	Agreement / Licence	Current Allocations
Berg River Dam	DWS	Licence pending	81.0
Berg River (Voëlvllei Dam)	DWS	BWP agreement	70.4
Theewaterskloof Dam, fixed volume	DWS	BWP agreement	90.0
Theewaterskloof Dam, variable volume	DWS	BWP agreement	28.0
Palmiet River	DWS	BWP agreement	22.5
Upper and Lower Steenbras Dam	CCT		40.0
Wemmershoek Dam	CCT		54.0
Total variable allocation for CCT from WCWSS			385.9
Total fixed allocation for CCT from WCWSS			357.9
Small dams	CCT		6.3
Albion Spring	CCT		1.5
Atlantis Aquifer	CCT		5.0
Total allocation for CCT from own sources outside the WCWSS			12.8
Total allocation for CCT			398.7

WATER IS LIFE - SANITATION IS DIGNITY Toll Free: 0800 200 200 www.dws.gov.za

Agricultural Allocations

- Voëlvlei & Misverstand
 - Lower Berg IB: 18.1 million m³/a
 - Additional registered: 2.8 million m³/a
 - Additional licences: 10.8 million m³/a
- Theewaterskloof Dam
 - Riviersonderend part: 46.2 million m³/a
 - Upper Berg River IB: 58.6 million m³/a
 - Wynlands & Banhoek: 30.4 million m³/a
 - Summer streamflow: 16.5 million m³/a
- **Total capped: 183.4 million m³/a**



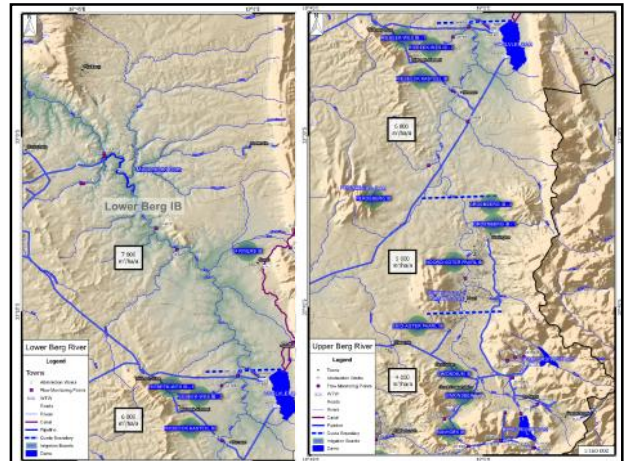
Agricultural Allocations Lower Berg River IB

Water User	Quota (m ³ /ha/a)	Area (ha)	Volume permitted (million m ³ /a)	Allocated volume from WCWSS (million m ³ /a)
Lower Berg IB – Summer	3,000	3,644	10.93	18.10
Lower Berg IB – Winter	3,000	2,302	6.91	
Lower Berg IB - Full Summer	4,000	3,644	14.58	
Lower Berg IB - Full Winter	4,000	2,302	9.21	
Additional registered users			2.78	2.78
Additional approved licences	7,000	1,255	8.60	10.75



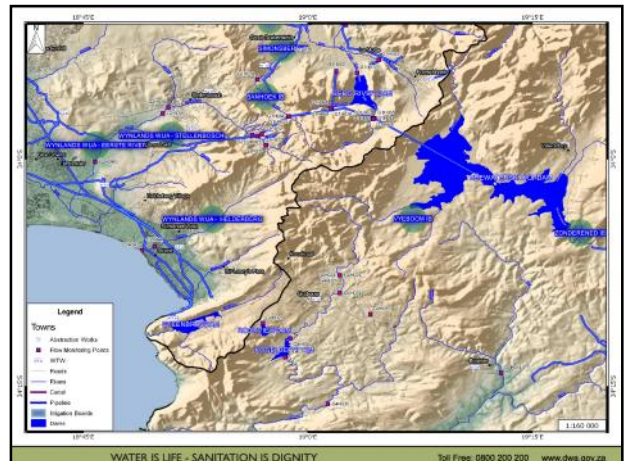
Agricultural Allocations Additional licences

Applicant	Irrigation Board	BEE %	Area [ha]	Volume allocated [m ³ /a]
Neethling Broers	Riebeeck / Upper Berg Zone 3	40%	30	180 000
Wynkeldershoek Workers Trust	Upper Berg Zone 2	40%	77	385 000
Adama Appollo Trust	Lower Berg IB	45%	215	1 505 000
Platkloof Workers Trust	Lower Berg IB	33.5%	215	1 505 000
Le Roux Group Workers Trust	Lower Berg IB	30%	215	1 505 000
Lynol Petersen Family Trust	Lower Berg IB	100%	215	1 505 000
McISA Agri Tourism Wittewater	Lower Berg IB	30%	73.93	517 510
Aqua Empower Bovenvlei	Lower Berg IB	30%	214.3	1 500 000
Piketberg Sunrise Farms (Pty) Ltd	Lower Berg IB	30%	214.3	1 500 000
Total				8 602 510





Agricultural Allocations Upper Berg River Main IB

Water User	Quota (m ³ /ha/a)	Area (ha)	Volume permitted (million m ³ /a)	Allocated volume from WCWSS (million m ³ /a)
Berg River IB (quota 1)	4,000	15,174 (Summer)	74.9	58.6
Berg River IB (quota 2)	5,000			
Berg River IB (quota 3)	6,000			
Noord-Agter Paarl IB	5,000			
Suid-Agter Paarl IB	4,000			
Perdeberg IB	5,000	1,074 (Winter)		
Simondium IB	4,000			
Simonsberg IB	4,000			
Groenberg IB (Distr 1)	5,000			
Groenberg IB (Distr 1)	5,000			
Riebeeck Kastel IB	6,000			
Riebeeck Wes IB Distr 1	6,000			
Riebeeck Wes IB Distr 2	6,000			





Agricultural Allocations Zonderend and Vyeboom

Water User	Quota (m ³ /ha/a)	Area (ha)	Volume permitted (million m ³ /a)	Allocated volume from WCWSS (million m ³ /a)
Zonderend IB – Summer	6,000	4,452	26.71	31.50
Zonderend IB – Winter	6,000	1,389	8.33	
Vyeboom IB	7,100	1,852	13.15	13.20
Pump from TwK	7,100	Unknown		1.50



Toll Free: 0800 200 200 www.dws.gov.za



Agricultural Allocations Wynlands WUA & Banhoek IB

Water User	Quota (m ³ /ha/a)	Area (ha)	Volume permitted (million m ³ /a)	Allocated volume from WCWSS (million m ³ /a)
Wynlands WUA : Stellenbosch District	4,000	3,010	12.04	12.00
Wynlands WUA : Helderberg District	4,000	3,028	12.11	12.10
Wynlands WUA : Eerste Rivier District	4,000	514	2.06	3.10
Eerste Rivier Leiwaterr releases			1.20	1.20
Banhoek IB	4,000	450	1.80	1.80
Others			0.18	0.18



Toll Free: 0800 200 200 www.dws.gov.za



Additional requests

- Licence applications for
 - CCT full allocation of Berg River Dam yield
81 million m³/a
 - CCT temporary allocation from Theewaterskloof Dam
28 million m³/a
 - WC DM increase in allocation from Voëlvlei Dam and Misverstand Weir
20 million m³/a
- Request for additional releases from Voëlvlei Dam for Lower Berg IB
20 million m³/a



Toll Free: 0800 200 200 www.dws.gov.za



Options for reconciling Allocations

- Reducing assurance of supply for agricultural allocations
- Moving temporary allocation for CCT back to agriculture
- Split Berg River Dam yield between users
- ...



Toll Free: 0800 200 200 www.dws.gov.za



Options for reconciling Allocations

- Reducing assurance of supply for agricultural allocations
 - Current: 183.4 million m³/a at 98% assurance
 - Change to: 90% assurance
 - Equals: 178 million m³/a at 98% assurance
- Imbalance: >1 million m³/a



Toll Free: 0800 200 200 www.dws.gov.za

Options for reconciling Allocations

- Moving temporary allocation for CCT back to agriculture
 - Domestic allocation: 391.3 million m³/a
 - Agriculture available: 204.7 million m³/a
- Additional releases for Lower Berg IB and or West Coast DM: ~ 20 million m³/a



Toll Free: 0800 200 200 www.dws.gov.za

Options for reconciling Allocations

- Split Berg River Dam yield between users
 - 81 million m³/a available for allocation, e.g.
 - West Coast DM: 20 million m³/a by 2033
 - Lower Berg IB: 20 million m³/a
 - CCT: 41 million m³/a



WATER IS LIFE - SANITATION IS DIGNITY

Toll Free: 0800 200 200 www.dwa.gov.za