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REPUBLIC OF SOUTH AFRICA

IMPLEMENTATION AND MAINTENANCE OF THE WATER RECONCILIATION STRATEGY FOR RICHARDS BAY AND SURROUNDING TOWNS

Strategy Steering Committee Meeting (StraSC) 1

Wednesday, 1 August 2018

4. PURPOSE OF THE MEETING

- Introduce the study to all stakeholders
- Establish and define the role of the Strategy Steering Committee (StraSC)
- Overview of study activities
- Progress made to date
- Feedback on Strategy interventions
- Confirmation of StraSC Membership

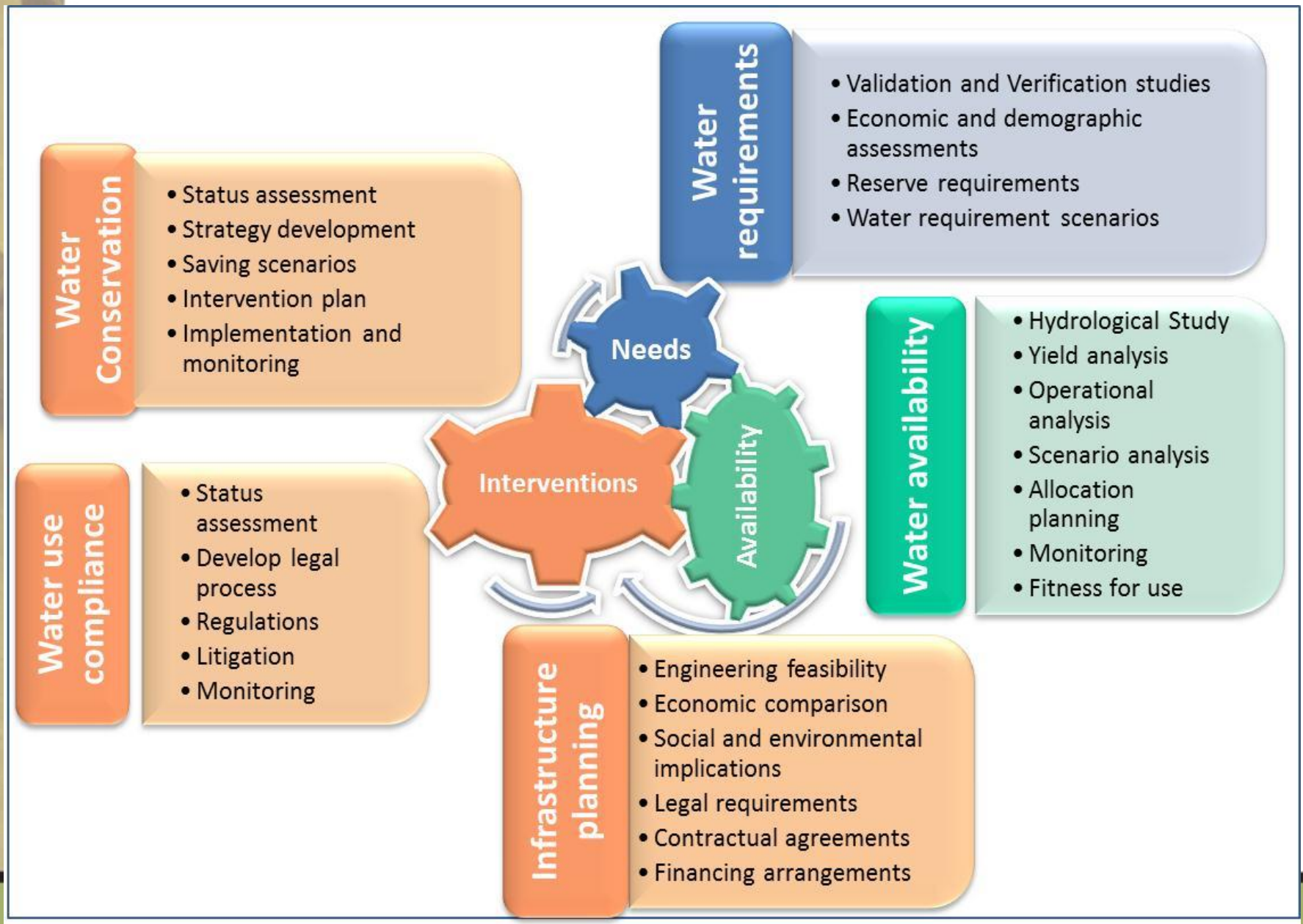
5. ROLE OF THE StraSC

- Provide executive guidance to the direction and outcomes of the study
- Make available supplementary information and input from a local and regional perspective
- Facilitate strategic linkages with other initiatives
- Disseminate information from study into the relevant organisations
- Incorporate strategies' recommendations into development plans such as IDPs etc.;
- Ensure the implementation of the Strategy recommendations.

6. RECONCILIATION STRATEGY - BACKGROUND

- Plans of action or policy designed to ensure sufficient water is made available to towns over the next +-20 years.
- Uses existing information collected (building blocks) on:
  - Water requirements
  - Water use and infrastructure
  - Water resources
  - WC/WDM
- Develop scenarios to meet water requirements for current and future use, including optimisation of local resources, improved water services and water resource management.

COMPONENTS OF A RECON STRATEGY



6.RECONCILIATION STRATEGY - BACKGROUND

- It aims to answer the following questions:
  - How much water is needed? - now and in the future
  - What water resources are available or can be made available?
  - Which interventions can be considered to achieve a balance between water requirements and supply?
- Focuses on the projected annual water balance.
- Also considers the accuracy of all the components that make up the water balance.

BACKGROUND TO THIS ASSIGNMENT

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Reconciliation Strategy

Water Reconciliation Strategy for Richards Bay and Surrounding Towns

Department of Water and Sanitation

Revision: Final

Reference: 109343/9171

- Reconciliation Strategy for the Richards Bay and Surrounding Towns was developed (2013-2015)
- Recommends sequence of management and infrastructural interventions required to maintain acceptable assurances of supply to the users.

WHY CONTINUATION OF STRATEGY (THIS STUDY)?

- Water balances need to be continuously monitored / investigated and the strategy regularly updated and maintained to remain technically relevant.
- Ensures that intervention planning can be implemented taking into account any changes (including Climate Change) that may impact on the projected water balance.
- **Study Objective:** To in-depth review, systematically update and improve the water resource reconciliation strategy so that it remains **relevant, technically sound, economically viable, socially acceptable and sustainable** and thus **enabling the implementation of the strategy by the relevant authorities**.

APPOINTED PSP

- The Professional Service Provider (PSP) appointed to undertake the study : **Black Jills Engineers** in association with **iX Engineers** and **WRP Consulting Engineers** (Joint Venture).

DWS Enquiries	Technical Enquiries	
Kennedy Mandaza DWS Study Manager Tel: 012 336 7670 E-mail: **MandazaK@dws.gov.za**	**Lilene Louw** Study Manager Tel: 012 745 2138 E-mail: **lilene.l@ixengineers.co.za**	**Caryn Seago** Deputy Study Manager Tel: 012 346 3496 E-mail: **caryns@wrp.co.za**

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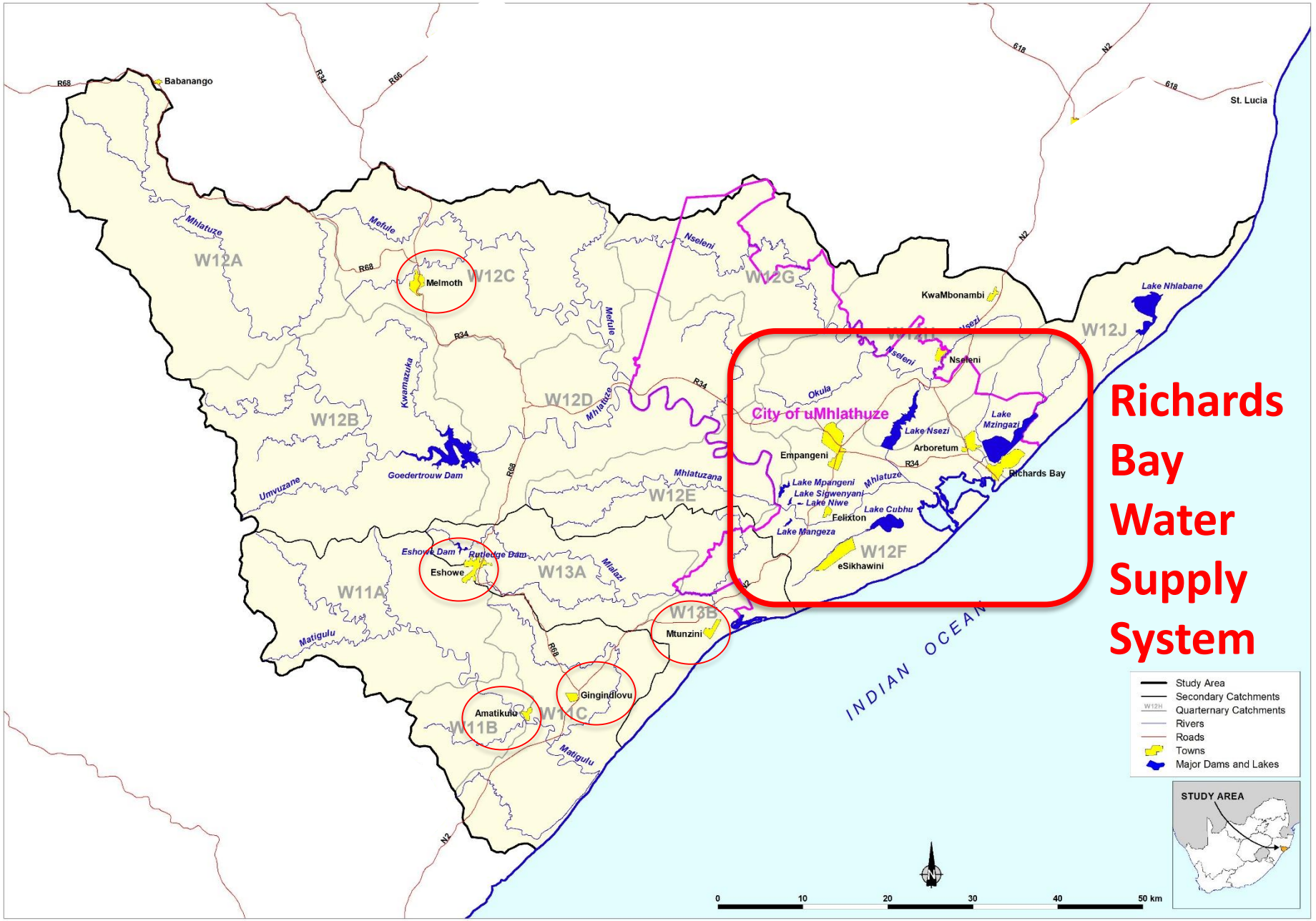
IMPLEMENTATION AND MAINTENANCE OF THE WATER RECONCILIATION STRATEGY FOR RICHARDS BAY AND SURROUNDING TOWNS

Item 7: Overview of Study Activities

Wednesday, 1 August 2018

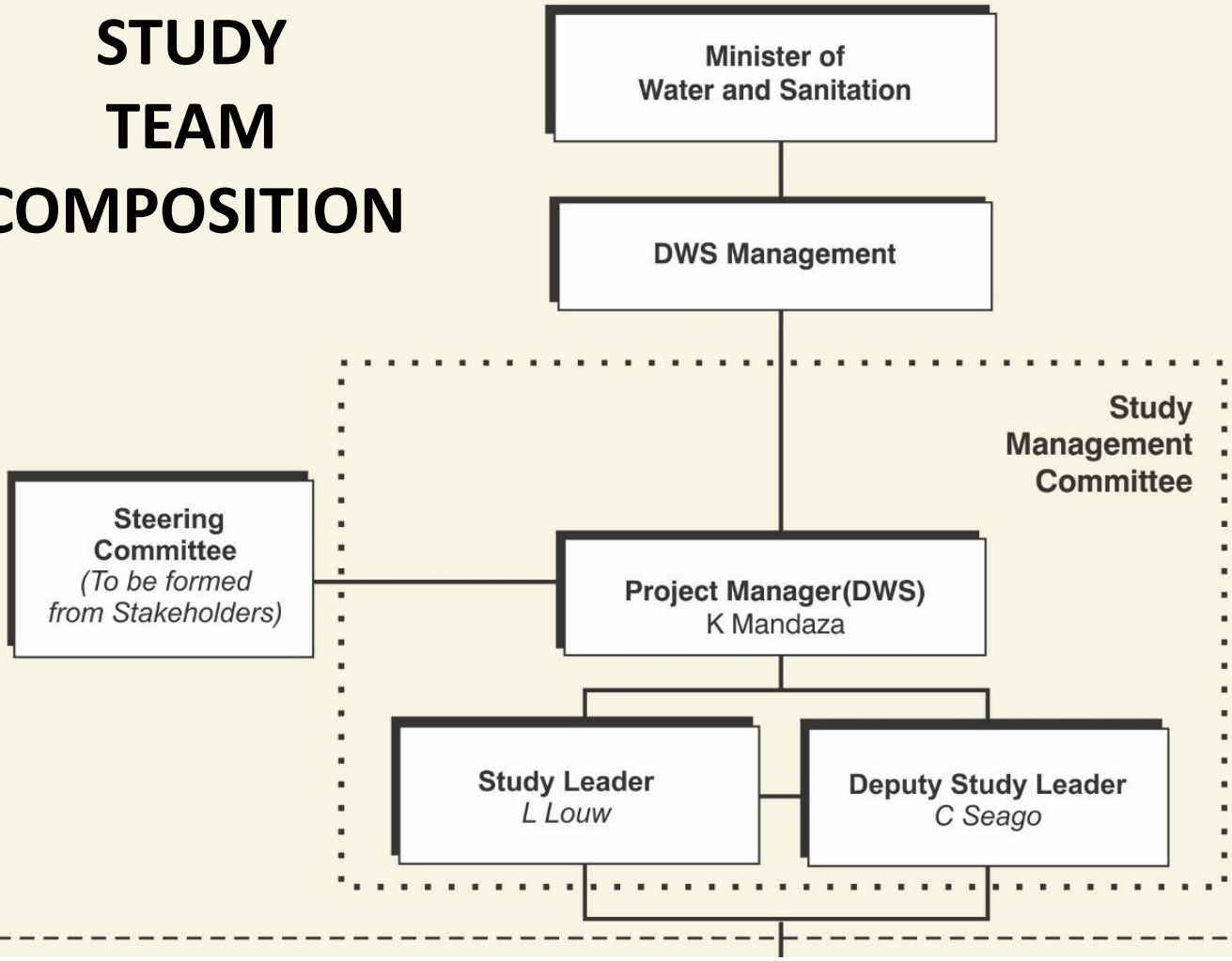
STUDY AREA



Richards Bay Water Supply System

IMPLEMENTATION AND MAINTENANCE OF THE WATER RECONCILIATION STRATEGY FOR RICHARDS BAY AND SURROUNDING TOWNS

STUDY TEAM COMPOSITION



TASK NO.	TASK DESCRIPTIONS	DELIVERABLES
1	Inception	Inception Report (Report No. 1) Literature Review
2	Demographics & Socio Economics	Updated population figures and growth scenarios Demographics Report (Report No. 2)
3	Water Requirements and Return Flows	Updated current and future water requirement database for different water use sectors Water Requirements and Return Flows Report (Report No. 3)
4	Water Conservation and Water Demand Management	Municipal and water resource monitoring network expansion plan Improved data capturing recommendations WC/WDM Management Report (Report No. 4)
5	Groundwater Assessment / Optimization of Supply from Natural Lakes	Chapter in Water Resources Report (Report No. 5)

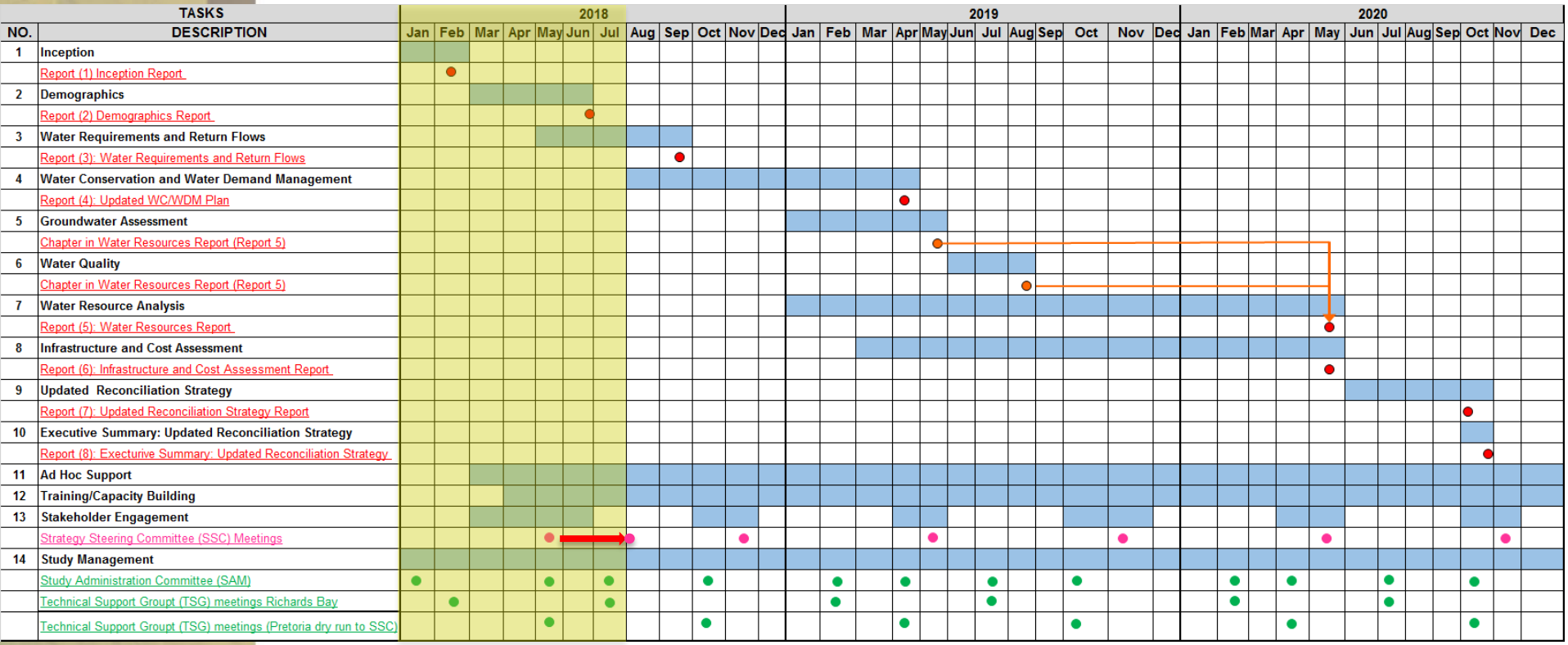
TASK NO.	TASK DESCRIPTIONS	DELIVERABLES
6	Water Quality Assessment	Chapter in Water Resources Report (Report No. 5)
7	Water Resource Analysis (incorporating Climate Change)	Water Resources Status Quo Assessment Module Water Resource Analysis Module Water Resources Report (Report No. 5)
8	Infrastructure and Cost Assessment Pre-Feasibility Comparison of Options Cost Assessment	Infrastructure and Cost Assessment Report (Report No. 6)
9	Updated Reconciliation Strategy	Updated Reconciliation Strategy Report (Report No. 7), including a chapter addressing small towns.
10	Executive Summary: Reconciliation Strategy	Executive Summary: Updated Reconciliation Strategy Report (Report No. 8)

TASK NO.	TASK DESCRIPTIONS	DELIVERABLES
11	Ad Hoc Support	Memos summarizing results
12	Training and Capacity Building	Training Material Training Report (Report No. 9)
13	Stakeholder Engagement	Stakeholder Database Strategy Steering Committee (SSC) (6 Meetings) Newsletters/Media releases Web update and access arrangements
14	Study Management	Study Administration Meetings
		Study Technical Support Group
		Quarterly Progress and Annual Status Reports
		Financials

BROAD APPROACH

- Point of departure is Reconciliation Strategy (2015)
- Review, update
- Use observed data as far as possible
- Carefully explain deviations

Programme


TASKS
NO.
DESCRIPTION
2018
2019
2020
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1 Inception
Report (1) Inception Report
2 Demographics
Report (2) Demographics Report
3 Water Requirements and Return Flows
Report (3): Water Requirements and Return Flows
4 Water Conservation and Water Demand Management
Report (4): Updated WC/WDM Plan
5 Groundwater Assessment
Chapter in Water Resources Report (Report 5)
6 Water Quality
Chapter in Water Resources Report (Report 5)
7 Water Resource Analysis
Report (5): Water Resources Report
8 Infrastructure and Cost Assessment
Report (6): Infrastructure and Cost Assessment Report
9 Updated Reconciliation Strategy
Report (7): Updated Reconciliation Strategy Report
10 Executive Summary: Updated Reconciliation Strategy
Report (8): Executive Summary: Updated Reconciliation Strategy
11 Ad Hoc Support
12 Training/Capacity Building
13 Stakeholder Engagement
Strategy Steering Committee (SSC) Meetings
14 Study Management
Study Administration Committee (SAM)
Technical Support Groupt (TSG) meetings Richards Bay
Technical Support Groupt (TSG) meetings (Pretoria dry run to SSC)

http://www.dwa.gov.za/Projects/RichardsBay/

Balancing requirement and availability

Water Balance (2013)

Water component	Volume (million m3/a)
Available water	**195.1**
Total water requirement:	**183.9**
Irrigation	88.5
Urban	40.0
Industrial	55.4
Balance	**11.2**

The following categories of interventions were identified:

- Water conservation and water demand management (WC/WDM),
- Improved operation of the Richards Bay WSS,
- Water reallocation,
- Reducing users' assurances of supply,
- Land care,
- Thukela River inter-basin transfer schemes,
- Mfolozi River inter-basin transfer schemes,
- Mhlathuze River dams,
- Groundwater schemes,
- Use of treated effluent,
- Desalination, and
- Water supply infrastructure.

OUTCOMES OF PREVIOUS ASSIGNMENT (STRATEGY)

OUTCOMES OF PREVIOUS ASSIGNMENT

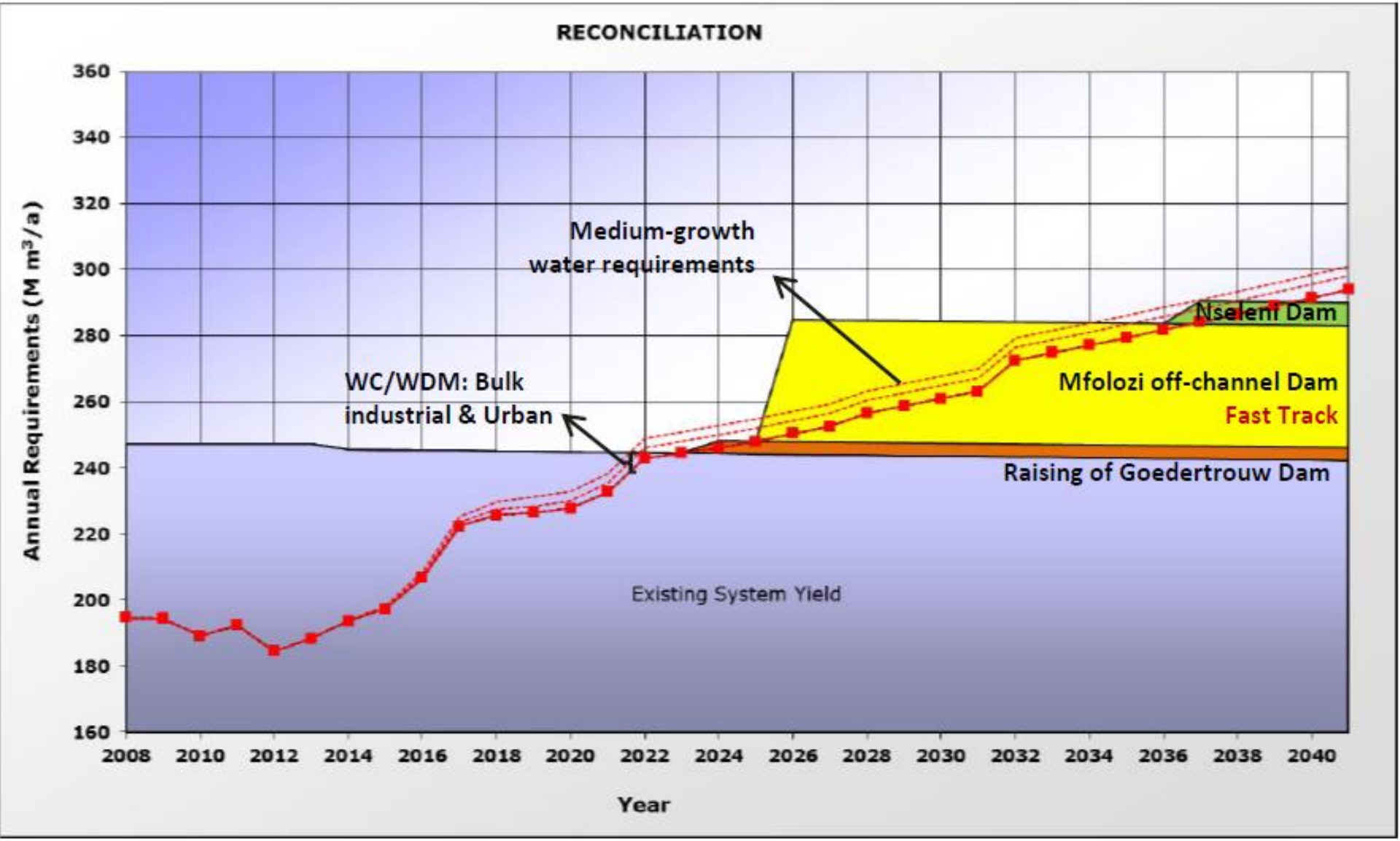


Figure E6 | Medium-growth Water Requirements Scenario

OUTCOMES OF PREVIOUS ASSIGNMENT

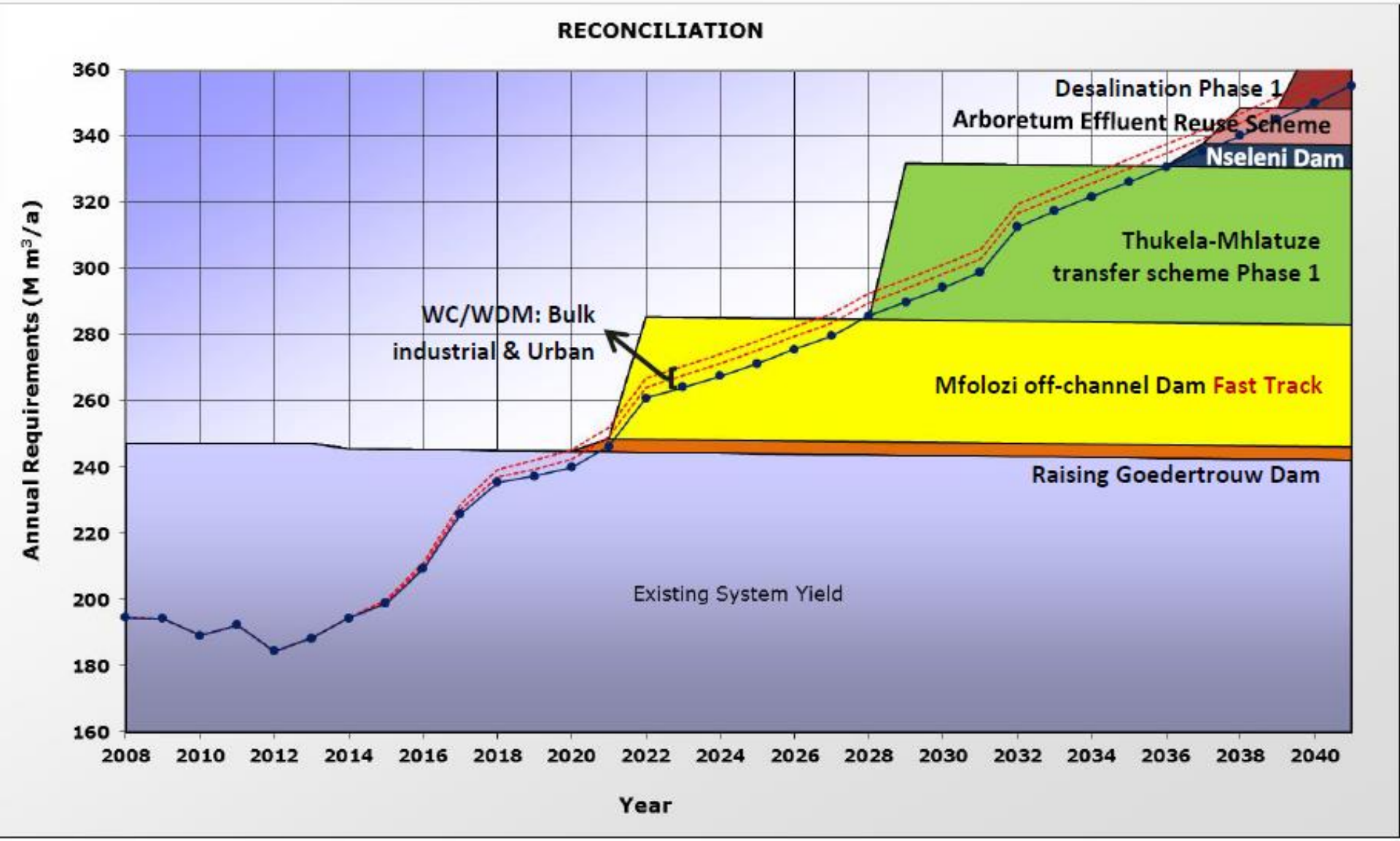


Figure E7 | High-growth Water Requirements Scenario – theme Mfolozi fast-track

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IMPLEMENTATION AND MAINTENANCE OF THE WATER RECONCILIATION STRATEGY FOR RICHARDS BAY AND SURROUNDING TOWNS

Item 8: Strategy Interventions

Wednesday, 1 August 2018

- Strategy Implementation Plan included in Reconciliation Strategy (2015)

- Action
- Responsibility
- Timing

- Very high & high priority listed for feedback at this meeting

8.1 WATER CONSERVATION / WATER DEMAND MANAGEMENT

Action	Responsibility	Timing
Industries: continue implementation of WC/WDM Action Plans	All Industries	High, report back annually
LMs and DMs: continue improving and implementing their WC/WDM Action Plans: Savings regularly reported on Identify interventions limit UAW 15% Prioritize interventions	Municipalities	High, report back annually
Appoint appropriate and technically qualified staff or PSPs to assist with implementation	Municipalities	High, report back annually
Ensure appropriate water tariff structure in place	Municipalities	High, report back annually

8.2 INFRASTRUCTURE: THUKELA

Action	Responsibility	Timing
Initiate a comparison pre-feasibility study Increased capacity of Thuk-Mhlath Transfer scheme (Middledrift) Coastal transfer pipe at Mandini	DWS: D: OA	ASAP Very High,

8.2 INFRASTRUCTURE: MFOLOZI

Action	Responsibility	Timing
Initiate a study including hydrology update, assessment of water requirements, system modelling etc.	DWS: D: OA	ASAP Very High,
Initiate a comparison pre-feasibility study to compare Mfolozi transfer scheme with others	DWS: D: OA	ASAP Very High,

8.2 INFRASTRUCTURE: RAISING GOEDERTROUW

Action	Responsibility	Timing
Initiate a full feasibility study to evaluate Goedertrouw raising	DWS: D: OA	ASAP Very High,
Implement this scheme as soon as possible should it seem favourable	DWS	Following completion of implementation ready report

8.3 LAND CARE

Action	Responsibility	Timing
Actively support clearing programmes for alien invasive plants	All Stakeholders	Ongoing High
Investigate the reduction of illegal / commercial afforestation in immediate vicinity of coastal lakes	DWS	High

8.4 OTHER: DESALINATION

Action	Responsibility	Timing
Initiate a pre-feasibility Study to evaluate the desalination of seawater	TBD	High
Implement seawater quality monitoring for 2 years to provide baseline data for plant process design	TBD	High

8.4 OTHER: USE OF TREATED EFFLUENT

Action	Responsibility	Timing
Initiate a feasibility Study to evaluate aspects Indirect effluent reuse from Lake Mzingazi Potential uptake of treated effluent by bulk industrial users clos to Arboretum macerator	CoU LM	High

8.4 OTHER: BILLING OF IRRIGATORS

Action	Responsibility	Timing
Reinstate the billing of irrigators for actual water use	DWS: NWRI	High

8.4 OTHER: OPERATIONAL

Action	Responsibility	Timing
Determine sustainable yields of coastal lakes	DWS: NWRP	Very High
RBM: artificial recharge of Lake Nhlabane from Mfolozi River	RBM	Sokhulu by 2019
Establish additional reliable flow monitoring between Goedertrouw and Mhlathuze weir	DWS: Hydrology	High

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IMPLEMENTATION AND MAINTENANCE OF THE WATER RECONCILIATION STRATEGY FOR RICHARDS BAY AND SURROUNDING TOWNS

Item 9: Current Progress

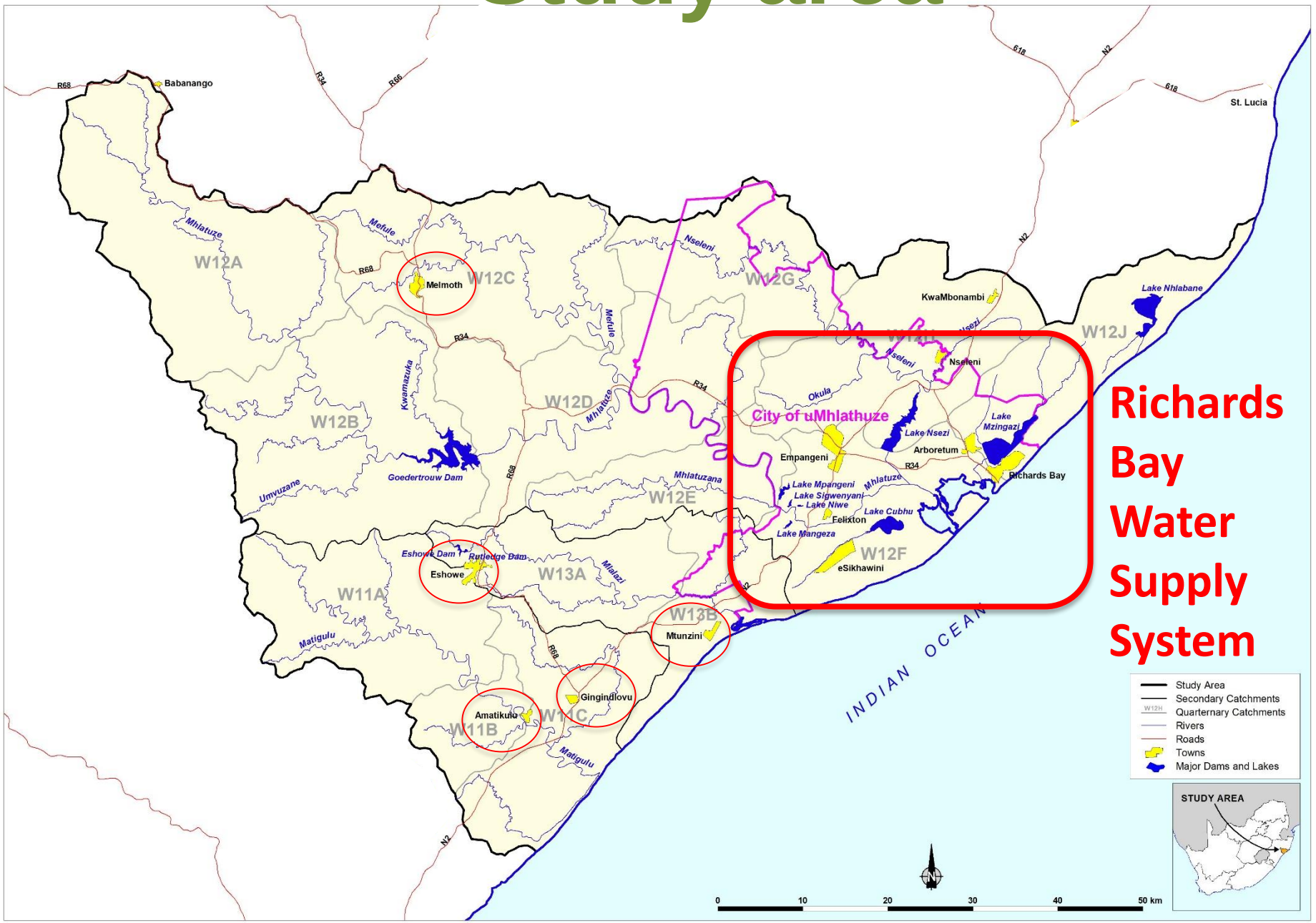
Wednesday, 1 August 2018

9.1 DEMOGRAPHICS AND SOCIO-ECONOMICS

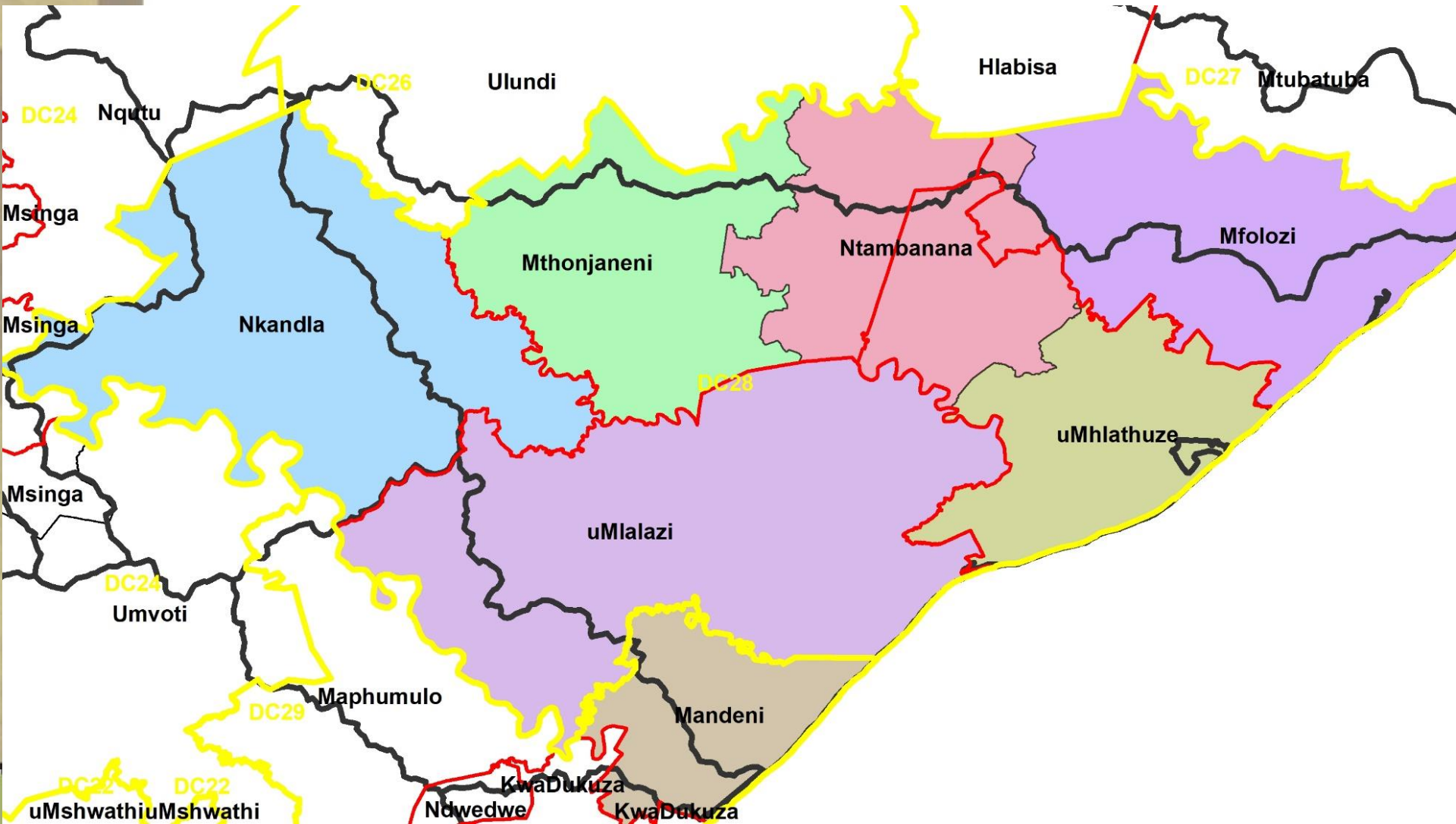
Approach

- Richards Bay reconciliation strategy demographics reviewed
- Determine, update, and refine the existing and possible future size and distribution of the population and economy
- Consult with relevant stakeholders regarding municipal plans, current commercial, industrial and residential developments in the municipal area, housing projects, future proposals for developments, etc.
- Model population growth and distribution in terms of low and high growth scenarios

Study area


Babanango
Melmoth
St. Lucia
KwaMbonambi
Nseleni
Empangeni
Arboretum
Richards Bay
Felixton
eSikhawini
Eshowe
Mtunzini
Amatikulu
Gingindlovu
Goedertrouw Dam
Eshowe Dam
Rutledge Dam
Lake Nhlabane
Lake Nsezi
Lake Mzingazi
Lake Mpangeni
Lake Sigwenyani
Lake Niwe
Lake Cubhu
Lake Mangeza
City of uMhlathuze
W12A
W12B
W12C
W12D
W12E
W12F
W12G
W12J
W13A
W13B
W11A
W11B
W11C
Mhlatuze
Melule
Kwamazuka
Umvuzane
Mhlatuzana
Nseleni
Okula
Matigulu
Mlalazi
R68
R34
R66
N2
618
INDIAN OCEAN
Richards Bay Water Supply System
Study Area
Secondary Catchments
Quarternary Catchments
Rivers
Roads
Towns
Major Dams and Lakes
STUDY AREA
0
10
20
30
40
50 km

Municipal boundaries in the study area

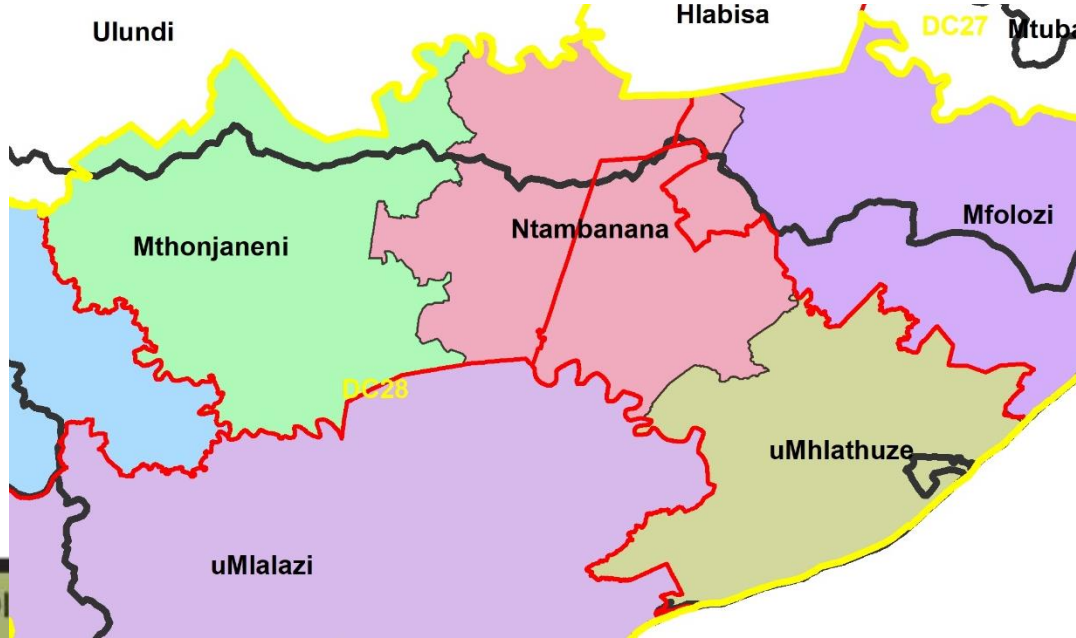


uMhlathuze LM base population data

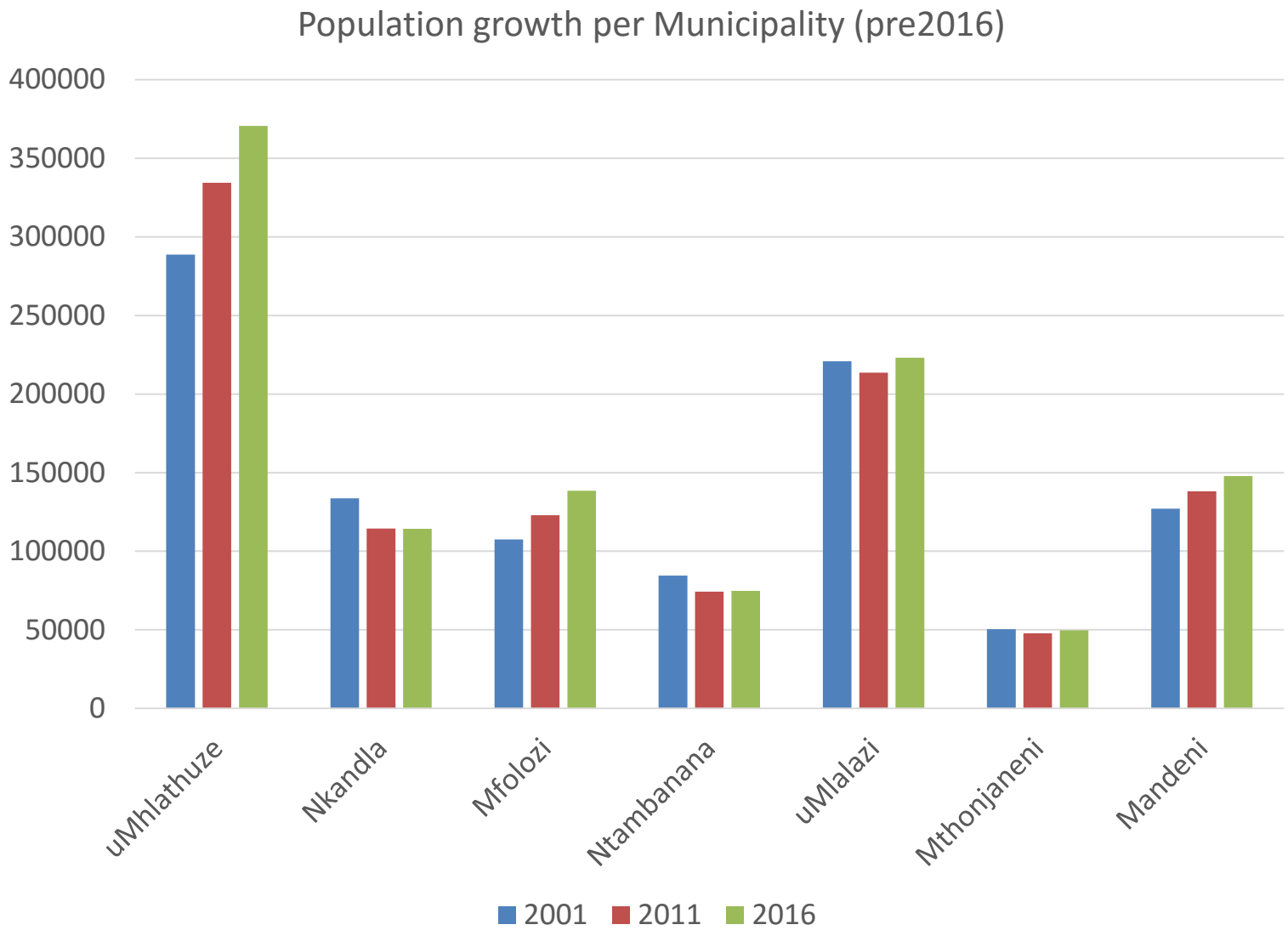
Source: uMhlathuze SDF

	KCDM	IMFOLOZI	UMHLATHUZE	UMLALAZI	MTHONJANENI	NKANDLA
2011	907 519	122 889	334 459	213 601	47 818	114 416
2016	971 135	144 363	410 465	233 140	78 883	114 284
% Growth	7,01%	17,47%	22,73%	9,15%	64,97%	-0,12%

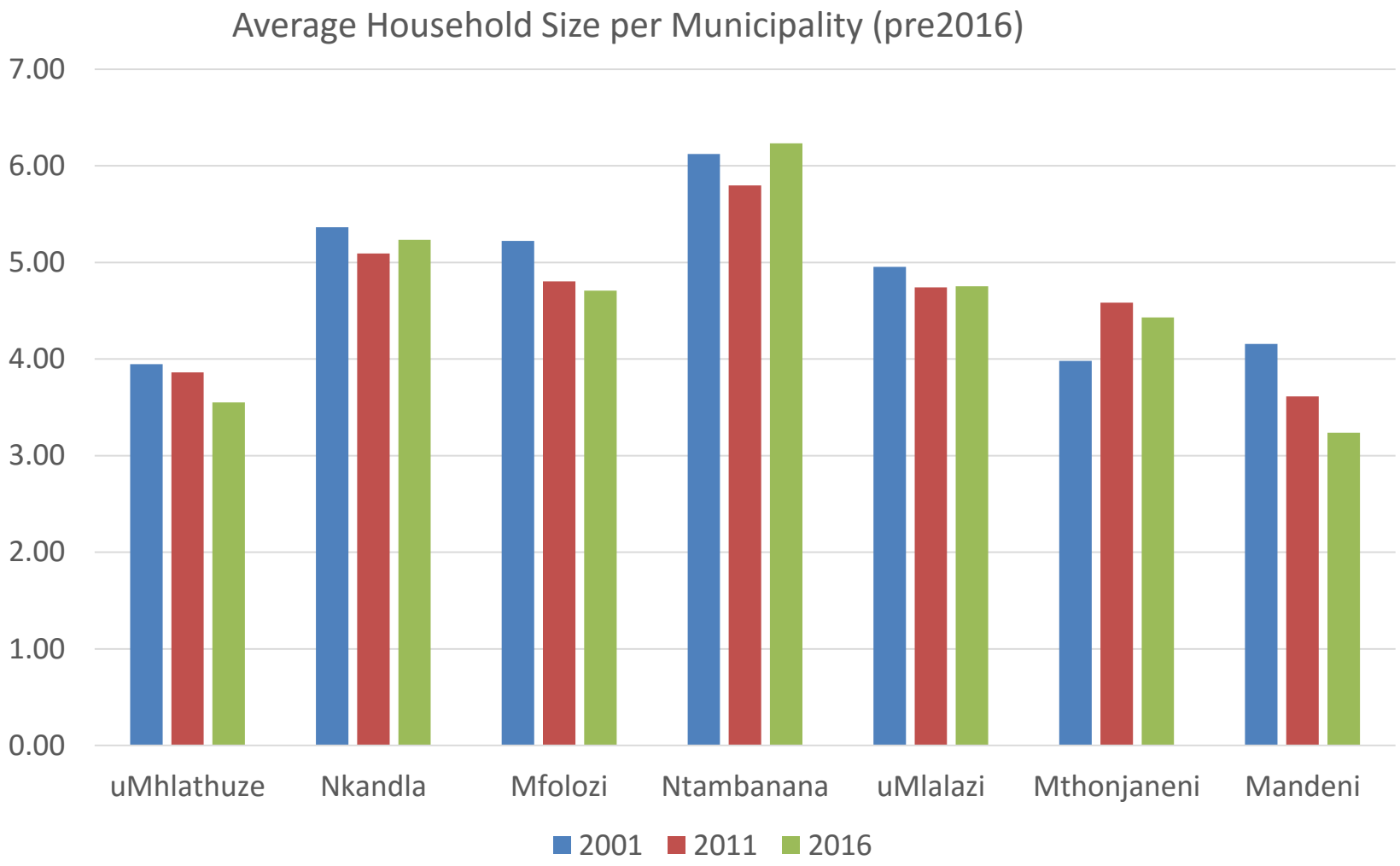
* Growth figures inconsistent as different boundaries utilised.
* Figures don't add up



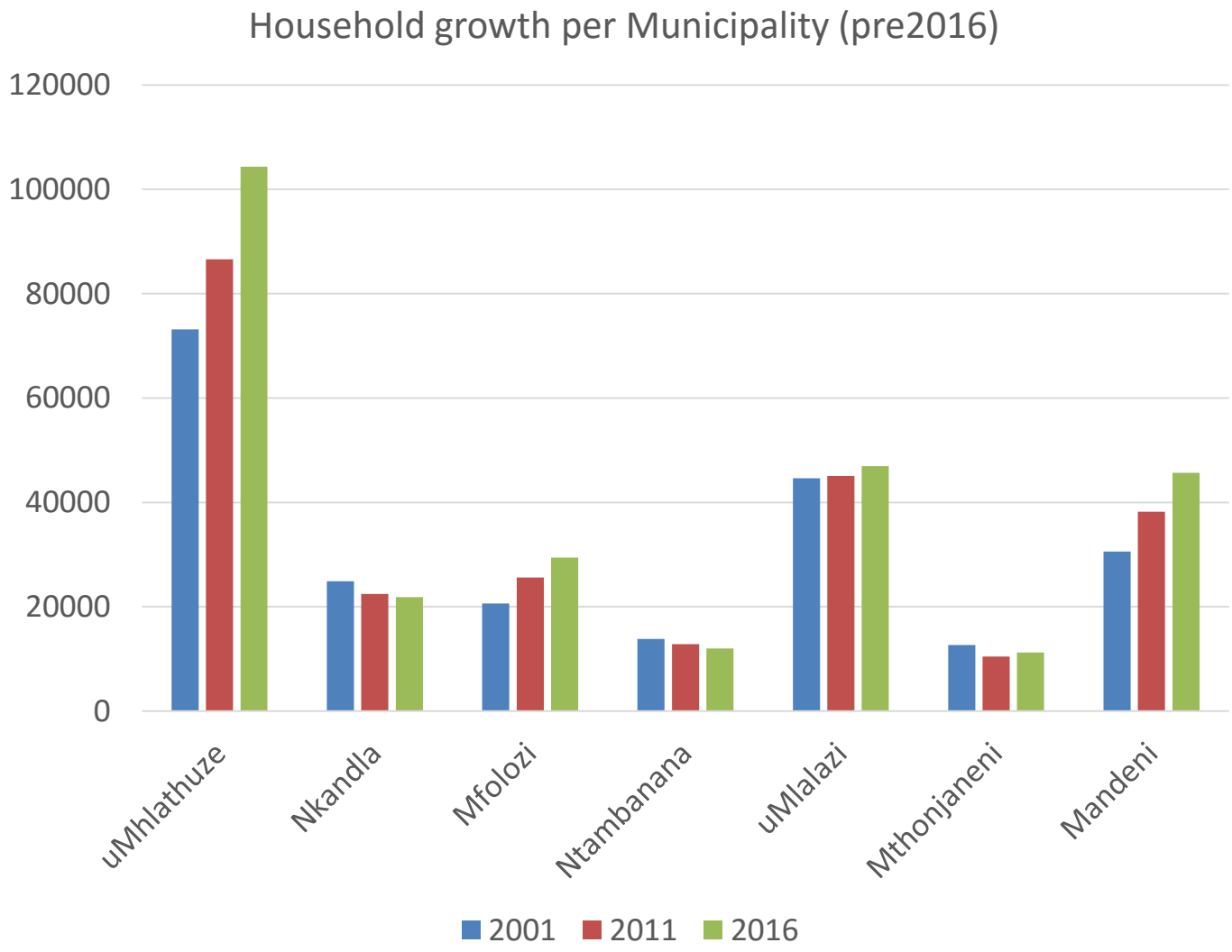
Population


Population growth per Municipality (pre2016)
400000
350000
300000
250000
200000
150000
100000
50000
0
uMhlathuze
Nkandla
Mfolozi
Ntambanana
uMlalazi
Mthonjaneni
Mandeni
2001
2011
2016

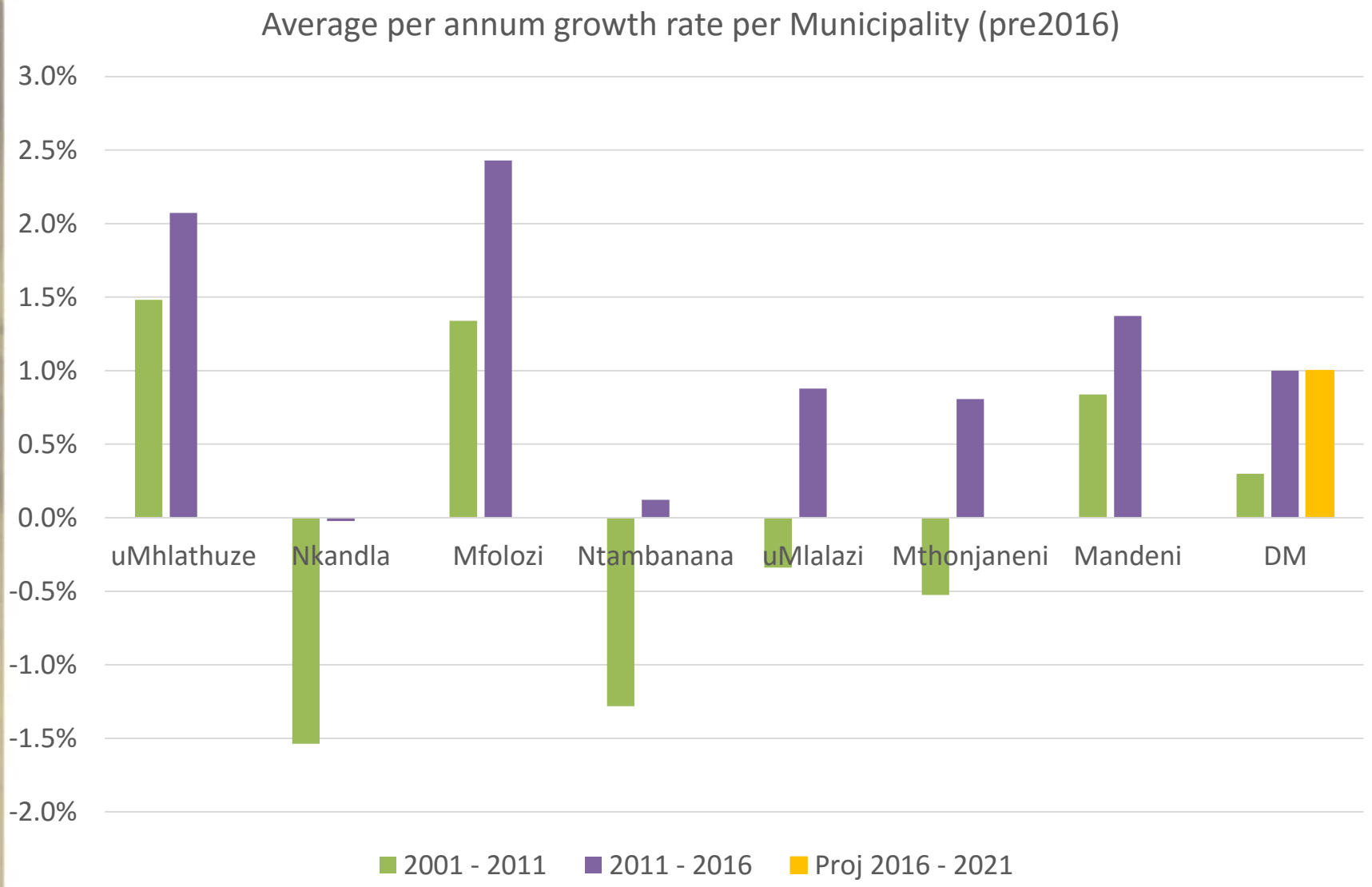
Household Size



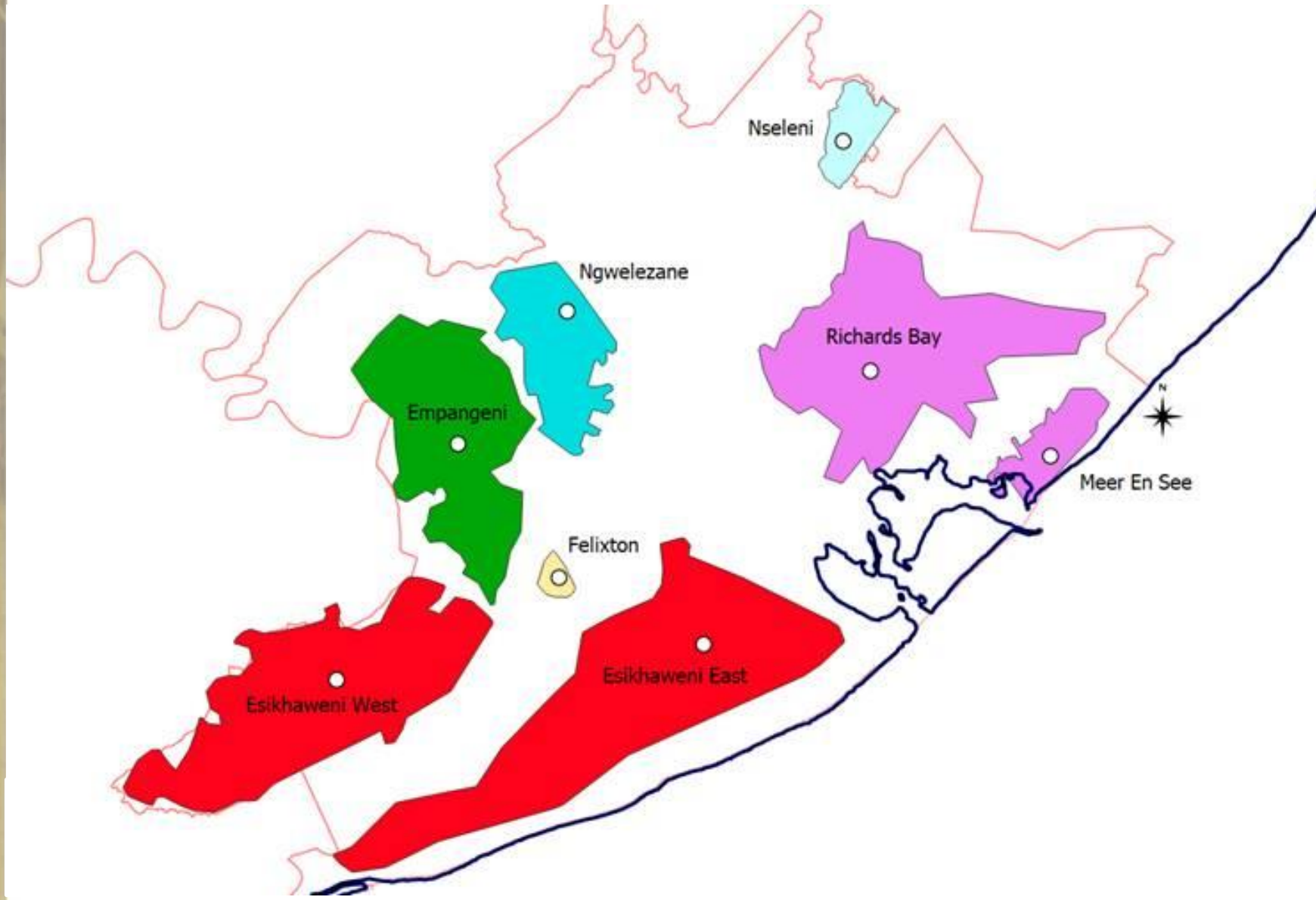
Households


Household growth per Municipality (pre2016)
120000
100000
80000
60000
40000
20000
0
uMhlathuze
Nkandla
Mfolozi
Ntambanana
uMlalazi
Mthonjaneni
Mandeni
2001
2011
2016

Population growth rate



Urban Demand Centres in Richards Bay WSS



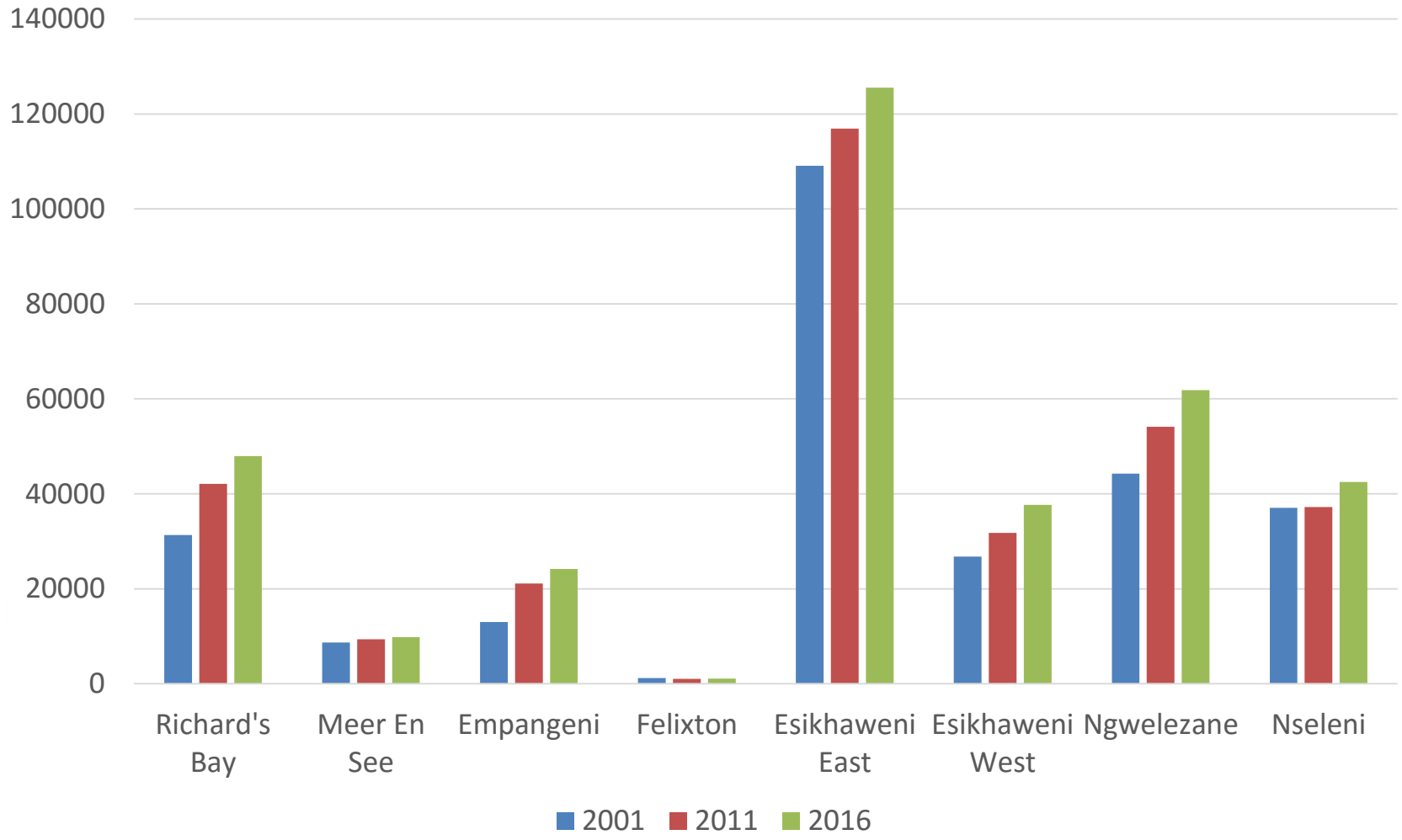
Base population determination

- A 2016 base population was determined per Urban Demand Centre

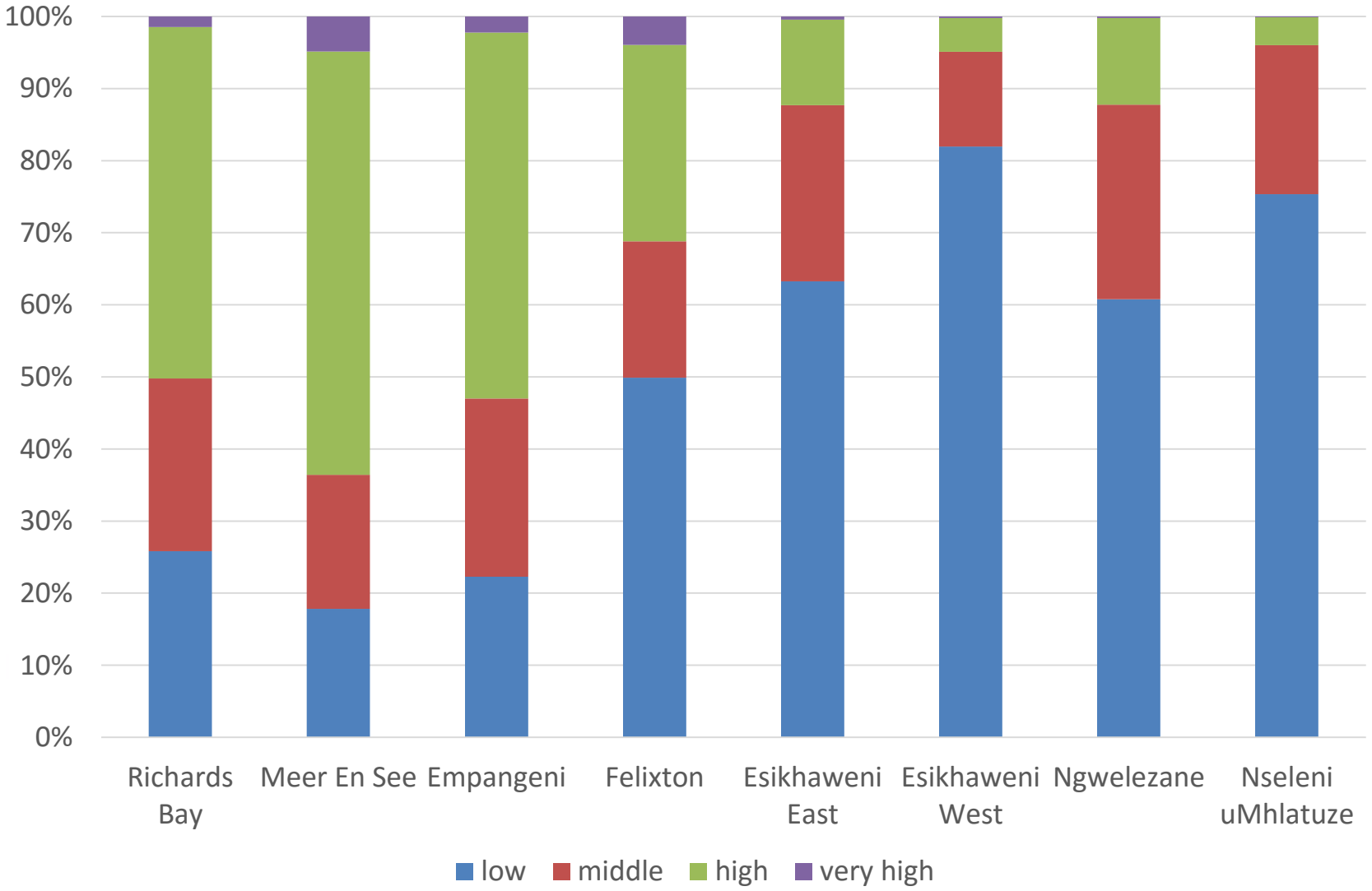
- **Based on latest official StatsSA data :**
  - StatsSA 2016 Community Survey only available at LM level ie. City of uMhlathuze LM
  - Urban Demand Centre base StatsSA 2011 Census

- **Change in distribution (2011 – 2016) accounted: :**
  - Analysing growth in Spot Building Counts from 2011 to 2015
  - Consultations with municipal stakeholders

Population per Urban Demand Centre - uMhlathuze



Income Levels per Urban Demand Centre - uMhlathuze

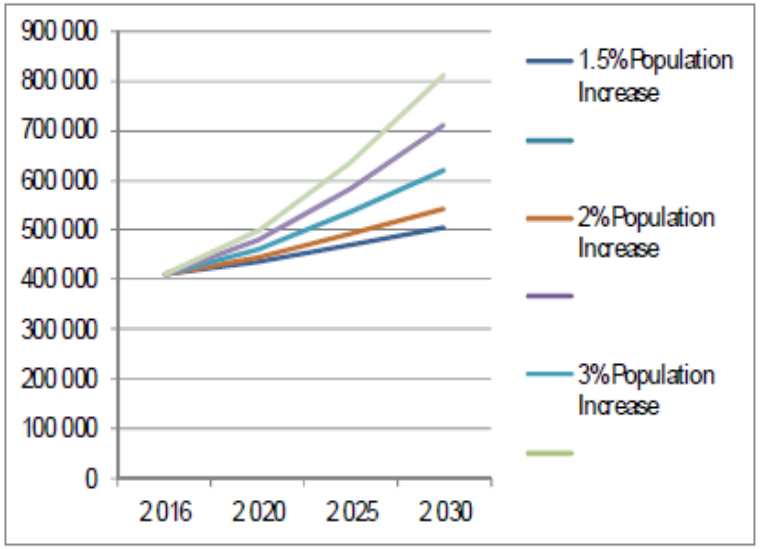


Low: < R38 000, Middle: R38 000 – R160 000, High: R160 000 – R1 000 000, Very High > R1 000 000

Municipal population projections

	2 016	2 020	2 025	2 030
1.5% Increase	410 465	435 653	469 322	505 593
Households	**103 915**	**110 292**	**118 816**	**127 998**
2% Increase	410 465	444 301	490 544	541 600
Households	**103 915**	**112 481**	**124 188**	**137 114**
3% Increase	410 465	461 982	535 564	620 865
Households	**103 915**	**116 957**	**135 586**	**157 181**
4% Increase	410 465	480 186	584 220	710 793
Households	**103 915**	**121 566**	**147 904**	**179 947**
5% Increase	410 465	498 923	636 766	812 693
Households	**103 915**	**126 310**	**161 207**	**205 745**

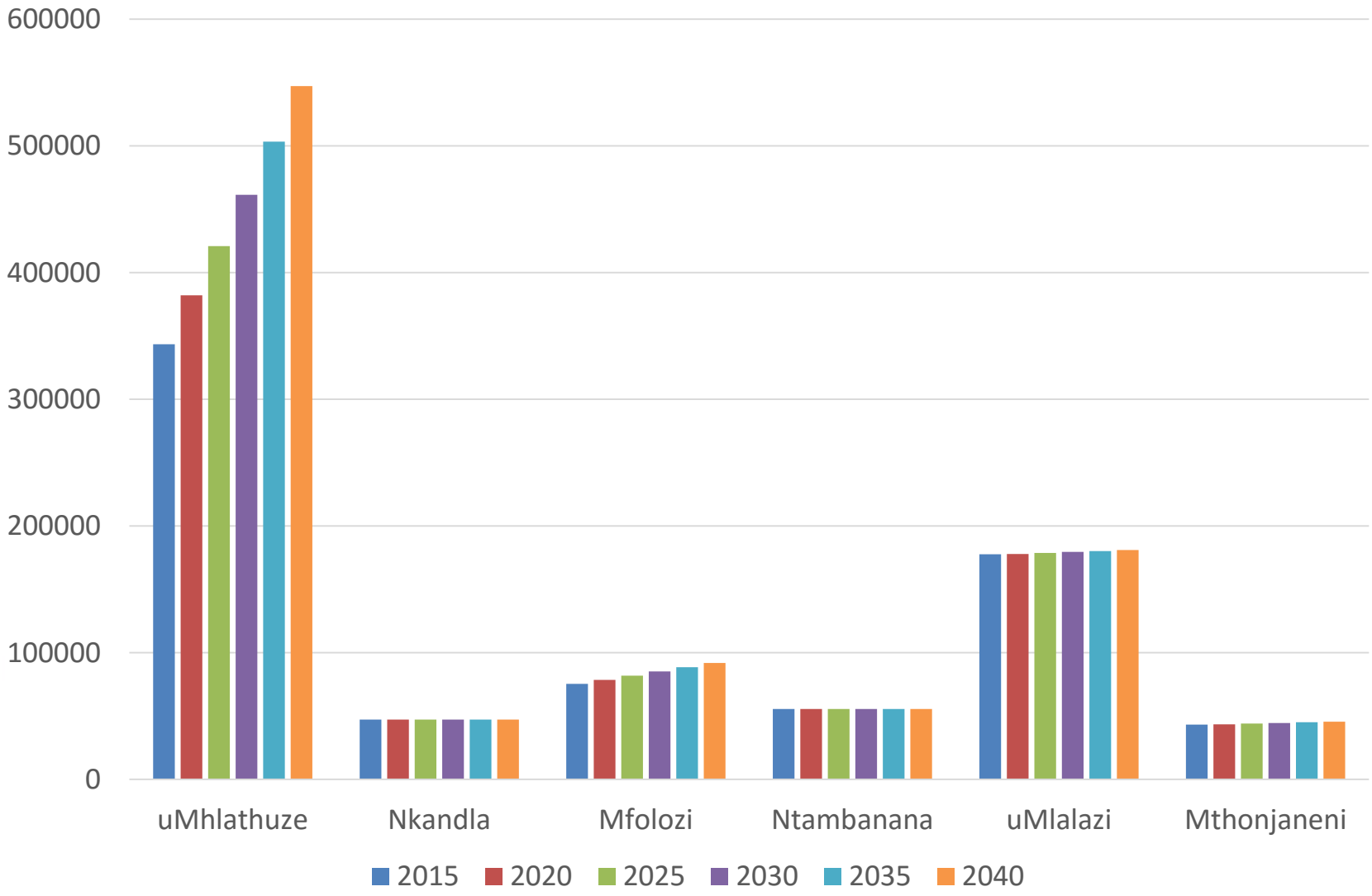
According to the municipality's strategy report served before the Corporate Services Portfolio Committee earlier this month, an 'all-embracing road map' is crucial to accelerate transformation and job creation, especially since the municipal population is expected to double by the year 2050.



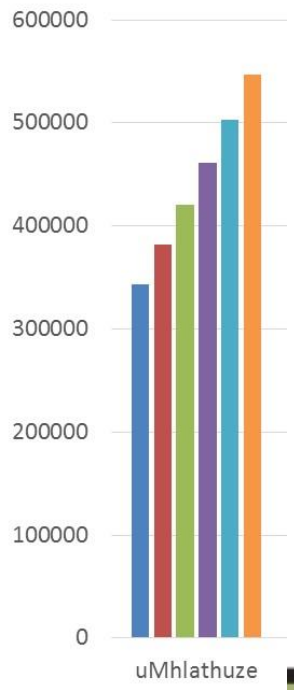
- No selected scenario
- No breakdown by area

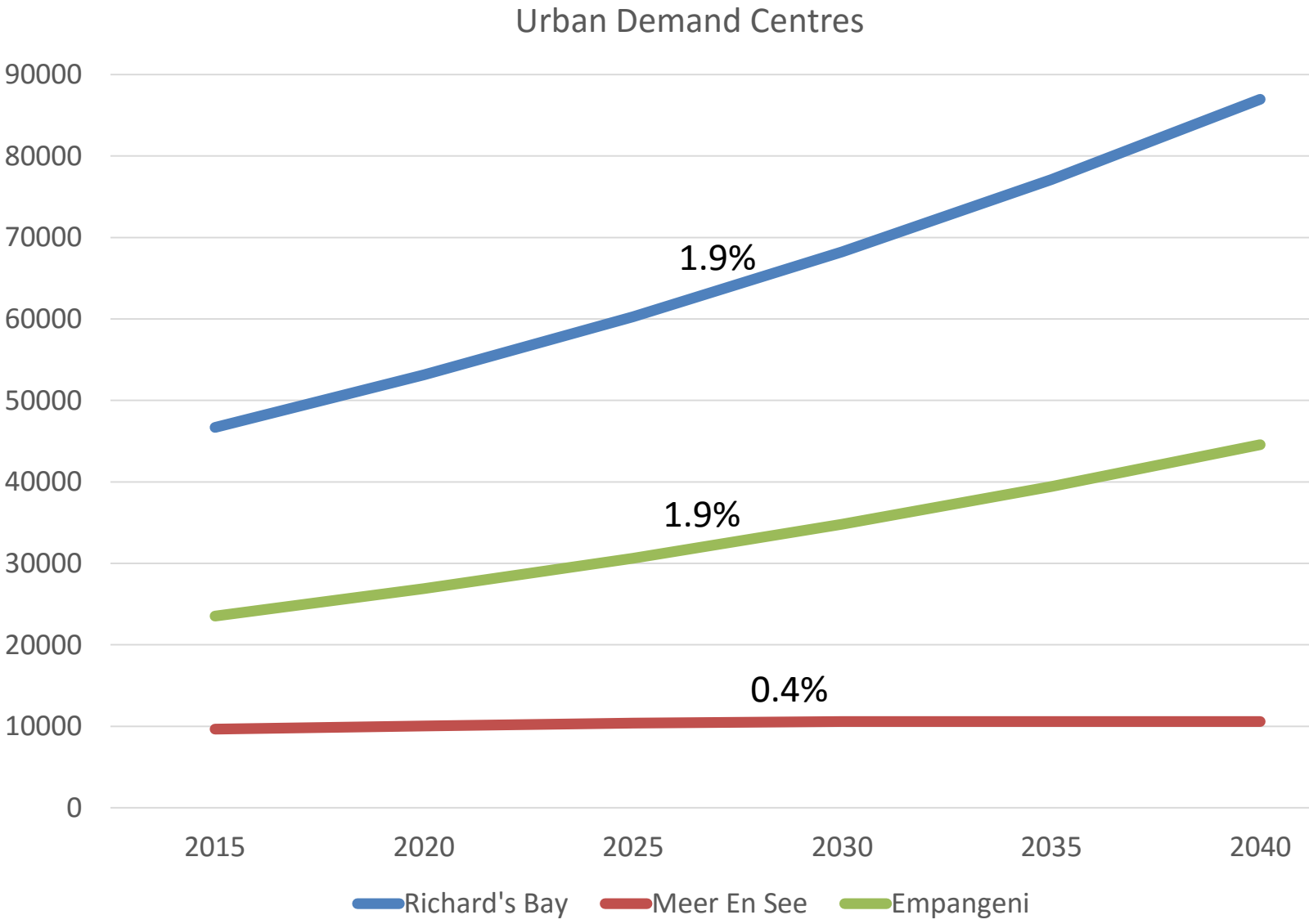
Source: uMhlathuze SDF

Population Projections by Municipality in Study Area

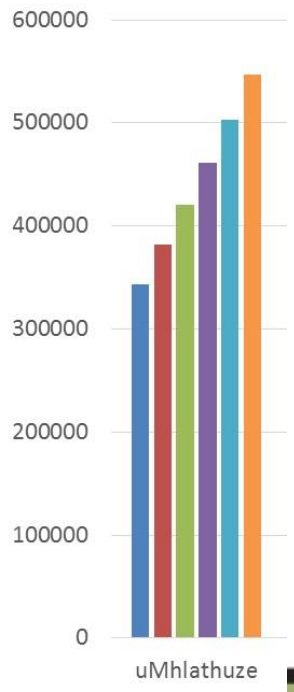


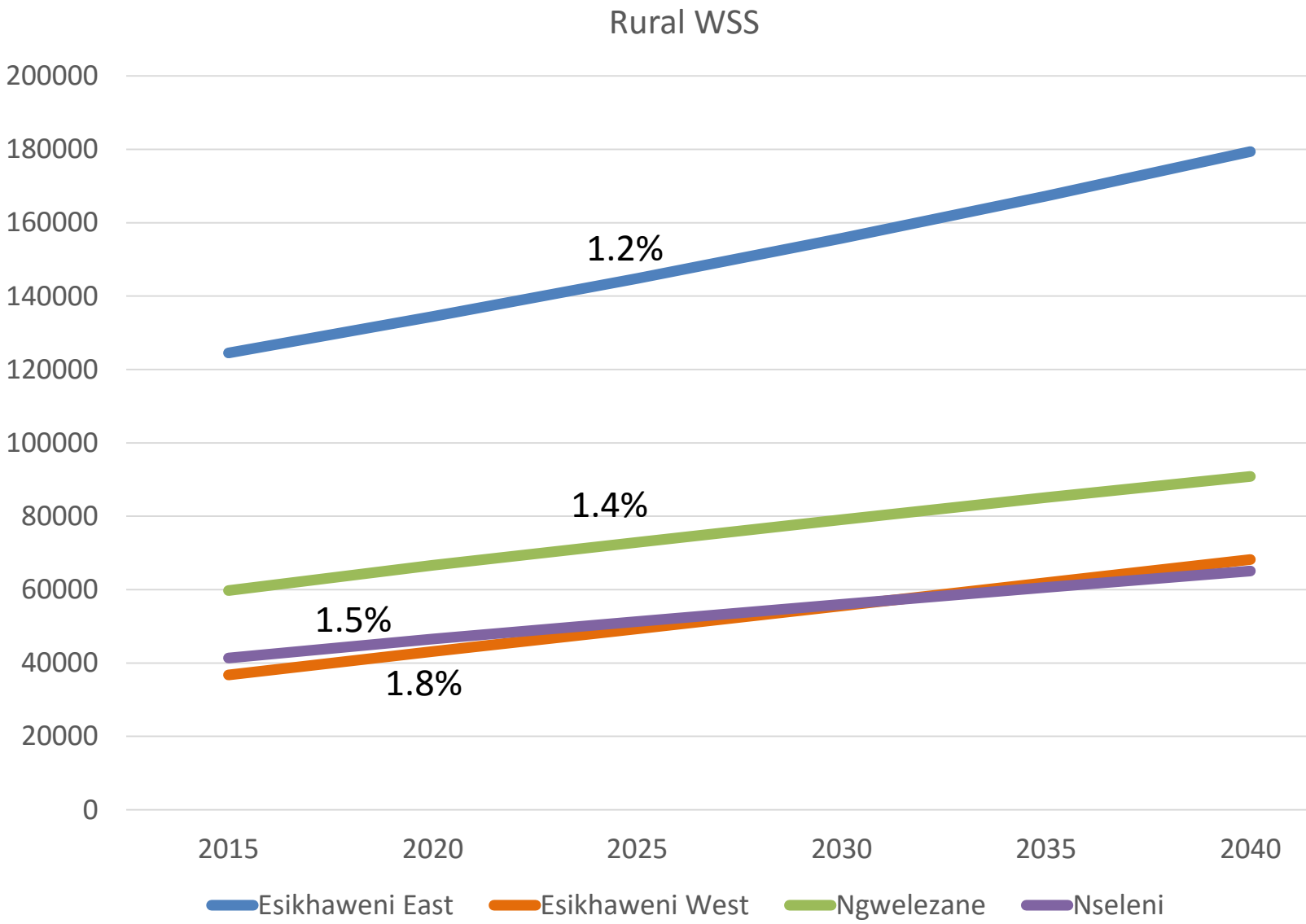
Population Projections - uMhlathuze



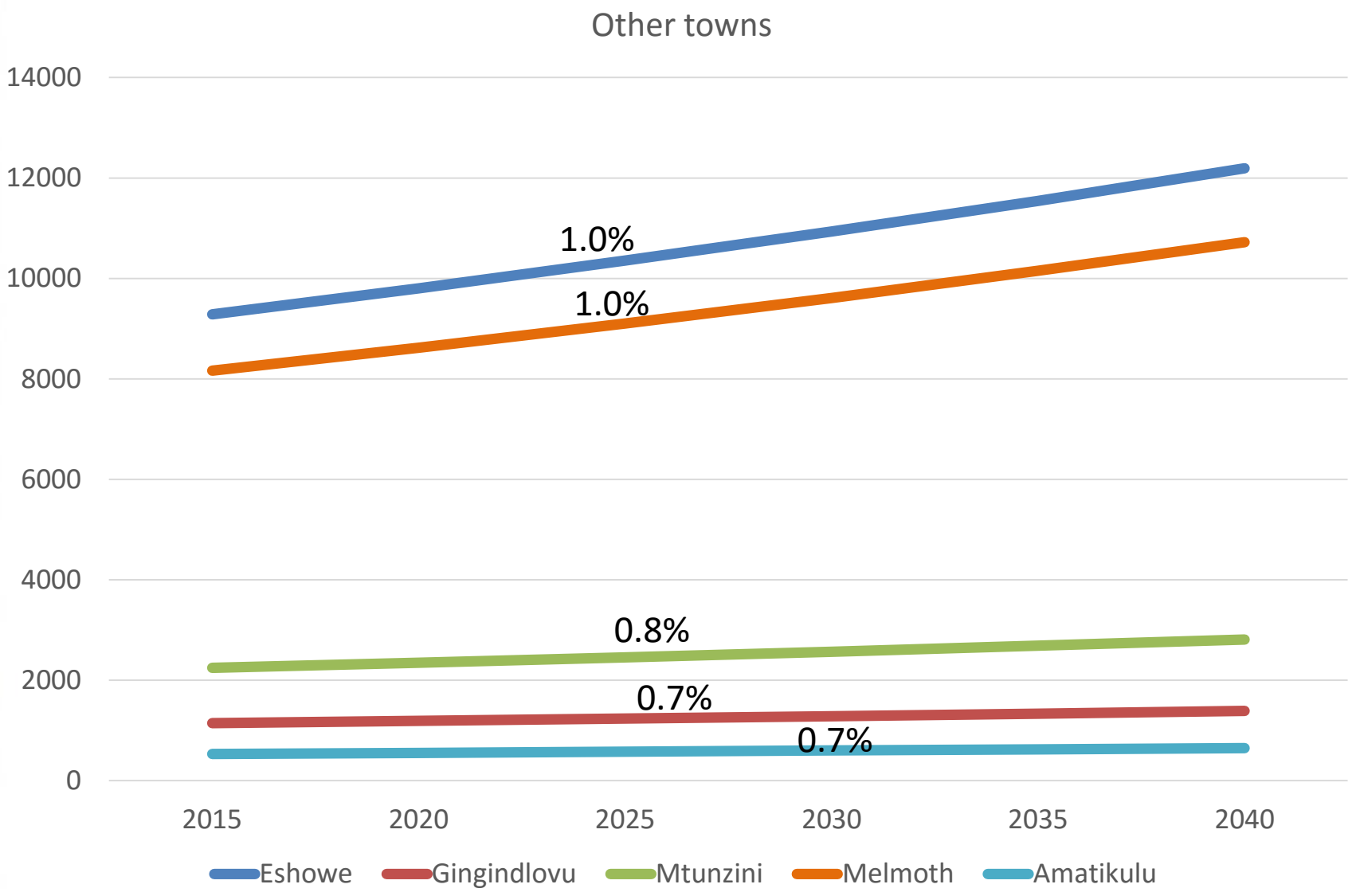


Population Projections - uMhlathuze





Population Projections



9.2 WATER REQUIREMENTS & RETURN FLOWS

EXTRACT FROM RECONCILIATION STRATEGY (2015)

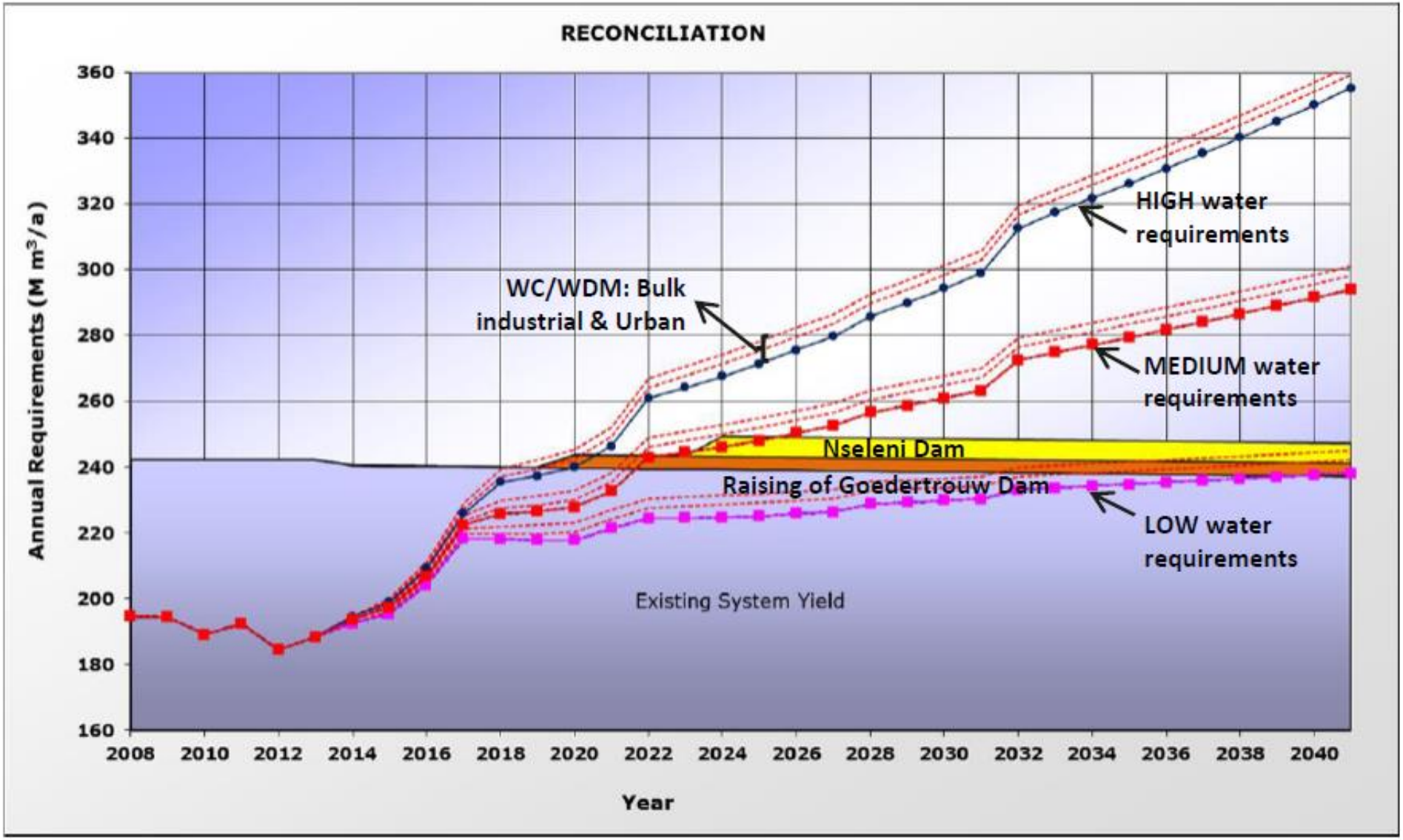
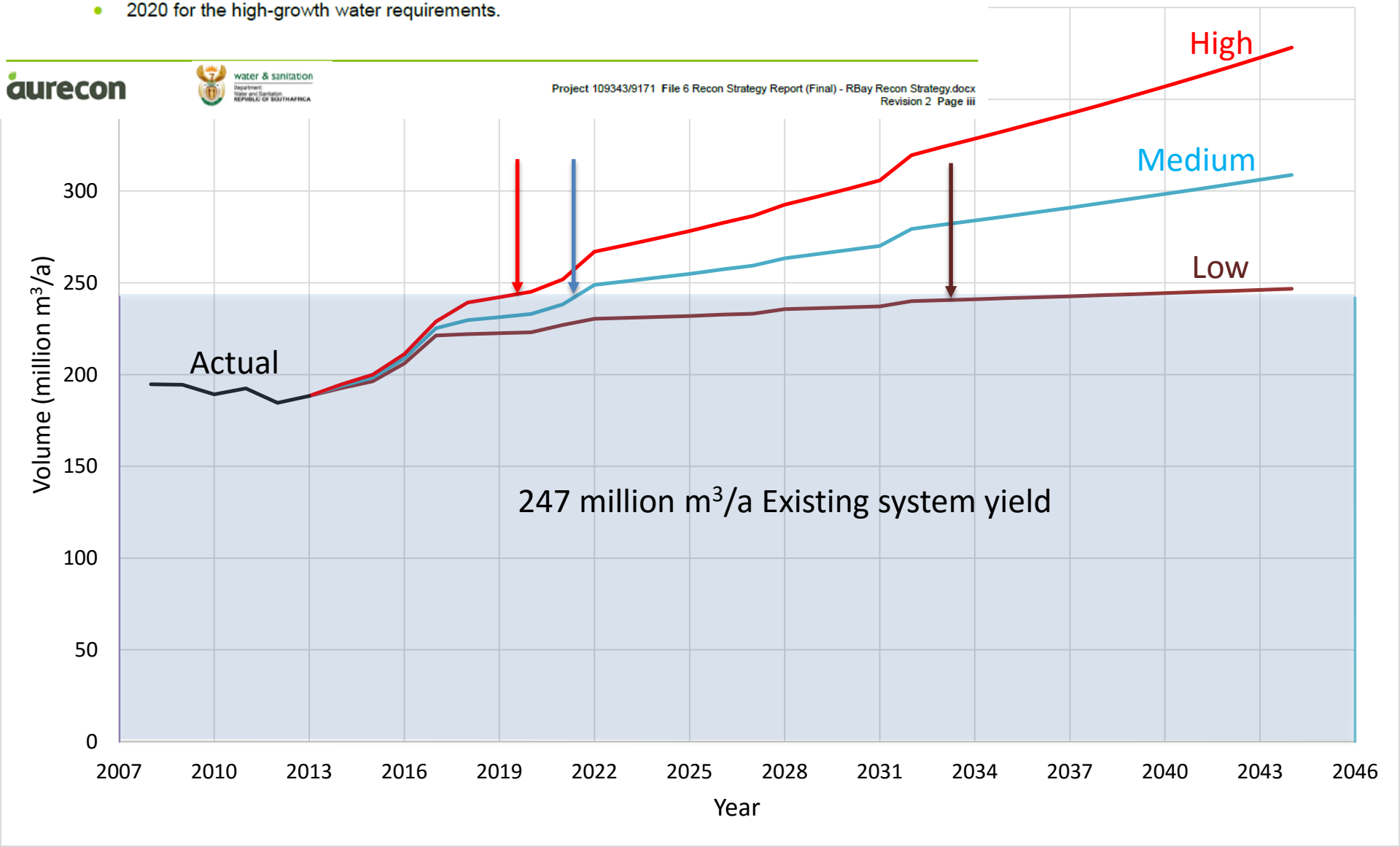


Figure 6-1 | Baseline interventions showing Water Use Scenarios (2015)

E4 Water Balance

The reliable yield of the current water supply system was determined as 247 million m^3/a. There is a small current surplus of water in the system. It was estimated that the next augmentation scheme is required by:

- 2033 for the low-growth water requirements,
- 2022 for the medium-growth water requirements, and
- 2020 for the high-growth water requirements.



E2 Water Use

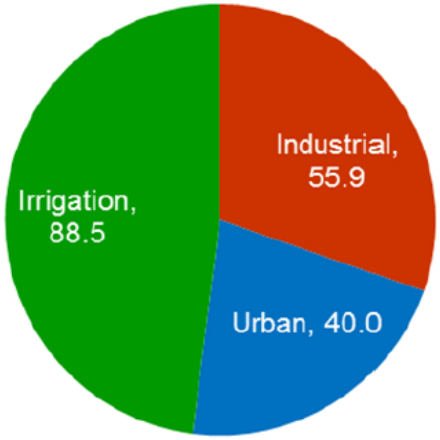


Figure E1 | 2013 Water Use (million m^3/a)

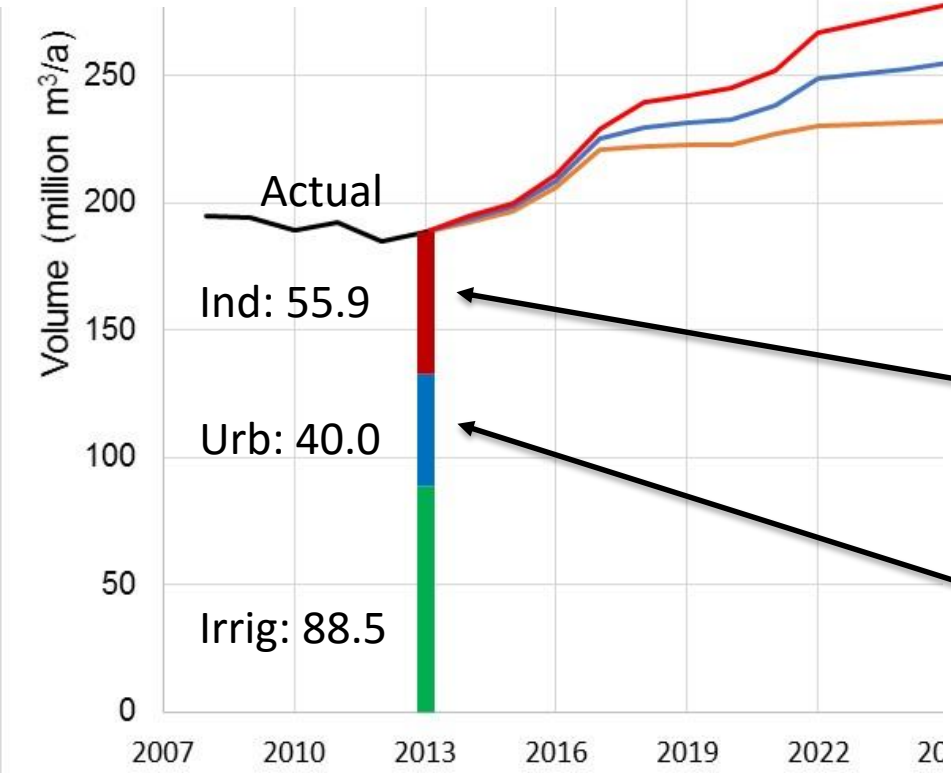
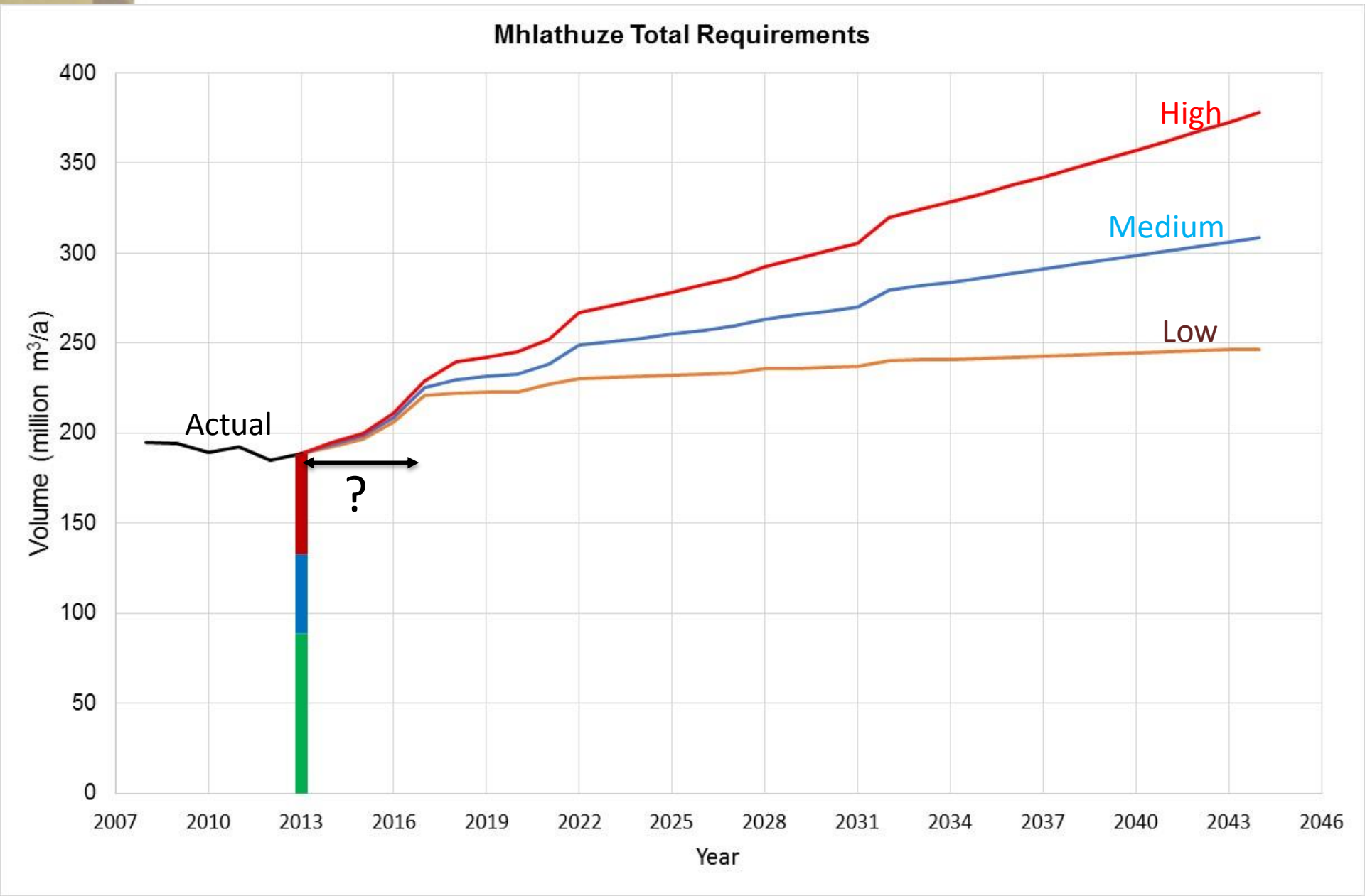
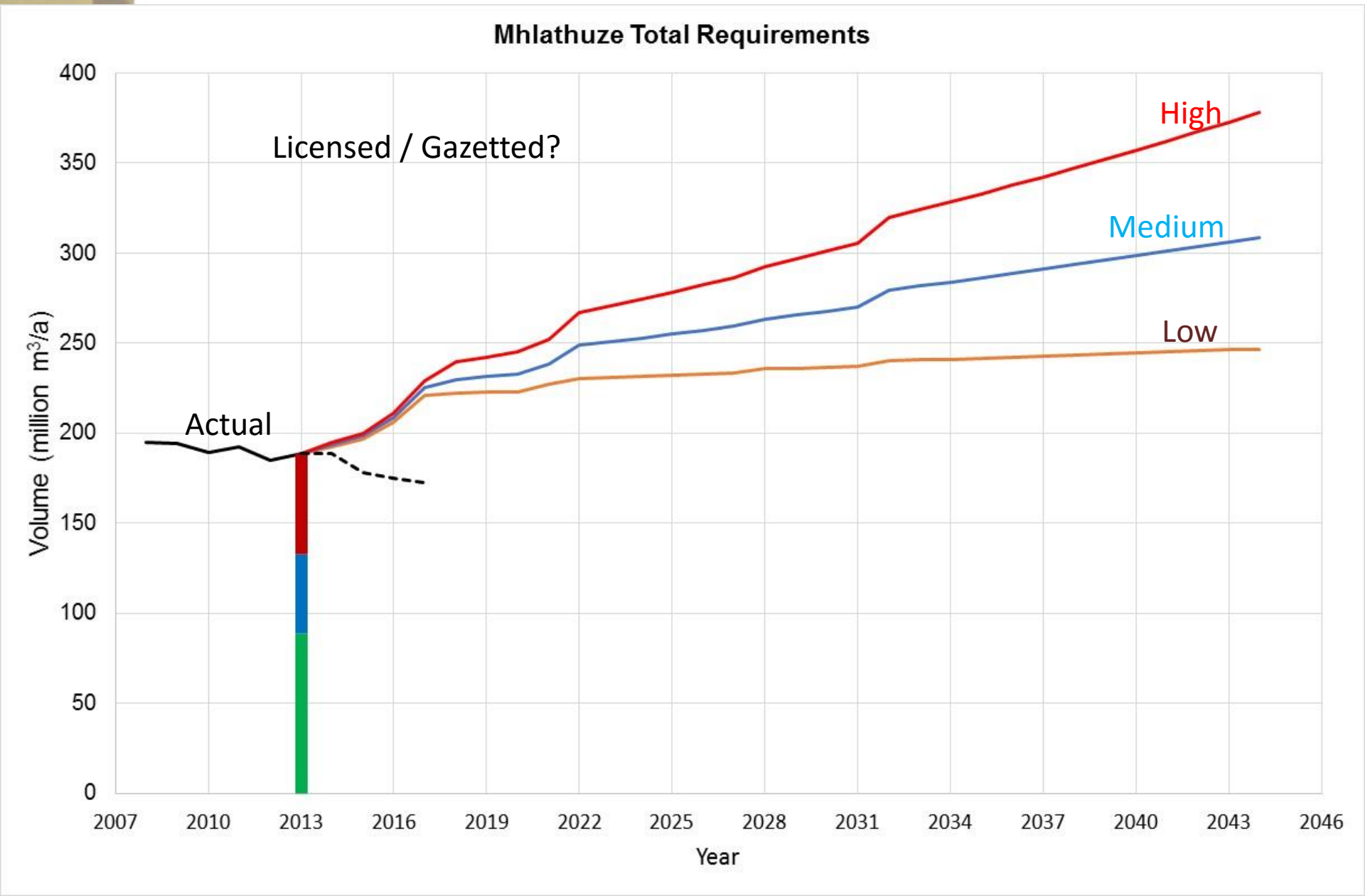


Table E1: Summary of 2013 Water Uses and Allocations

		Current Usage	
Supply Sector	*User*	*Annual (M^3/a)*	*Daily (Ml/d)*
Industry	Mondi Richards Bay	23.61	64.70
	RBM - Total	**15.34**	**42.02**
	RBM - Nhlabane	*12.95*	*35.49*
	RBM - uMfolozi	*0.00*	*0.01*
	RBM - Nsezi	*2.38*	*6.53*
	Tronox - Total	**5.30**	**14.52**
	Tronox - Hillendale	*3.75*	*10.28*
	Tronox - potable	*1.55*	*4.24*
	Foskor - Total	**7.09**	**20.04**
	Foskor - clarified	*4.12*	*11.28*
	Foskor - potable	*2.97*	*8.76*
	Mpact	2.22	6.07
	Tongaat Hulett	0.71	1.95
	Bayside - Total	**0.52**	**1.44**
	Bayside - raw	*0.34*	*0.94*
	Bayside - potable	*0.18*	*0.50*
	Hillside	0.72	1.97
	RBCT	0.43	1.19
	Total	**55.94**	**153.27**
Urban	Empangeni	7.79	25.58
	Richards Bay	14.24	39.02
	eSikhaleni	11.16	30.56
	Nseleni	4.28	11.71
	Ngwelezane	2.54	6.95
	Total	**40.00**	**109.58**
	GRAND TOTAL	**95.94**	**262.86**


Mhlathuze Total Requirements
400
350
300
250
200
150
100
50
0
Volume (million m³/a)
2007
2010
2013
2016
2019
2022
2025
2028
2031
2034
2037
2040
2043
2046
Year
High
Medium
Low
Actual
?


Mhlathuze Total Requirements
Licensed / Gazetted?
High
Medium
Low
Actual
Volume (million m³/a)
Year
400
350
300
250
200
150
100
50
0
2007
2010
2013
2016
2019
2022
2025
2028
2031
2034
2037
2040
2043
2046

GOVERNMENT NOTICE

DEPARTMENT OF WATER AND SANITATION

No. 242 **25 March 2015**

NATIONAL WATER ACT, 1998

FINAL ALLOCATION SCHEDULE IN TERMS OF SECTION 47 OF THE NATIONAL WATER ACT, 1998 FOR THE MHLATHUZE RIVER CATCHMENT

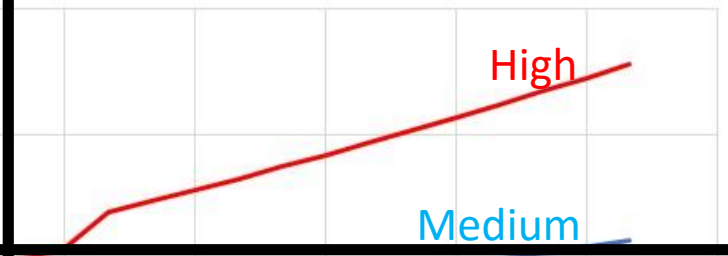
I, Anil Bijman Singh, as the delegated authority in terms of section 63 of the National Water Act, 1998 (Act No. 36 of 1998), hereby state that in terms of section 47(1)*(a)*(i) and *(b)* of the said Act that the preliminary allocation schedule has become final for the Mhlathuze River Catchment.

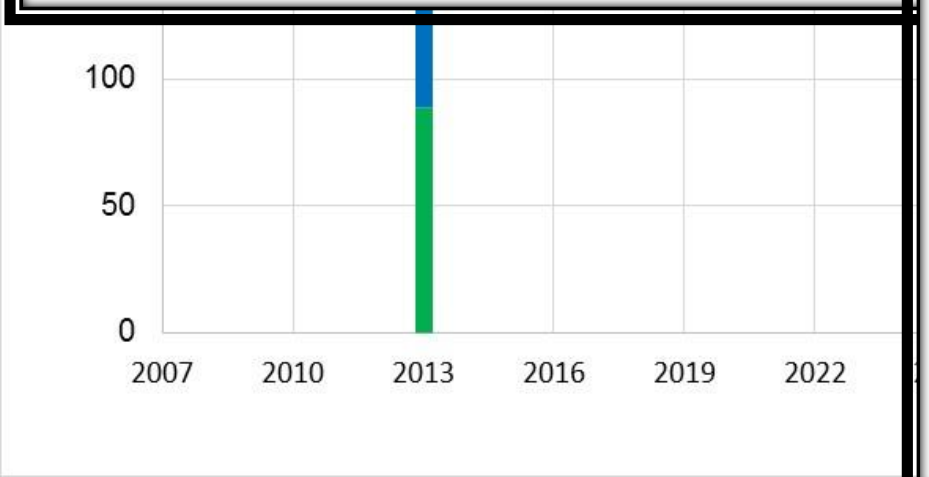
The final allocation schedule can be accessed on the website www.dws.gov.za/WAR.

DEPUTY DIRECTOR GENERAL: REGULATION COMPLIANCE MONITORING

DATE: 15/3/2015

...ents





A) Existing Licenses

Sector	Total Volume (million cubic metres per annum)
Industry	0.00
Irrigation	4.18
Mines	0.0
SFRA	420 (Hectares)
Storage	5.0
Urban	0.0

B) Volume of Water Set Aside

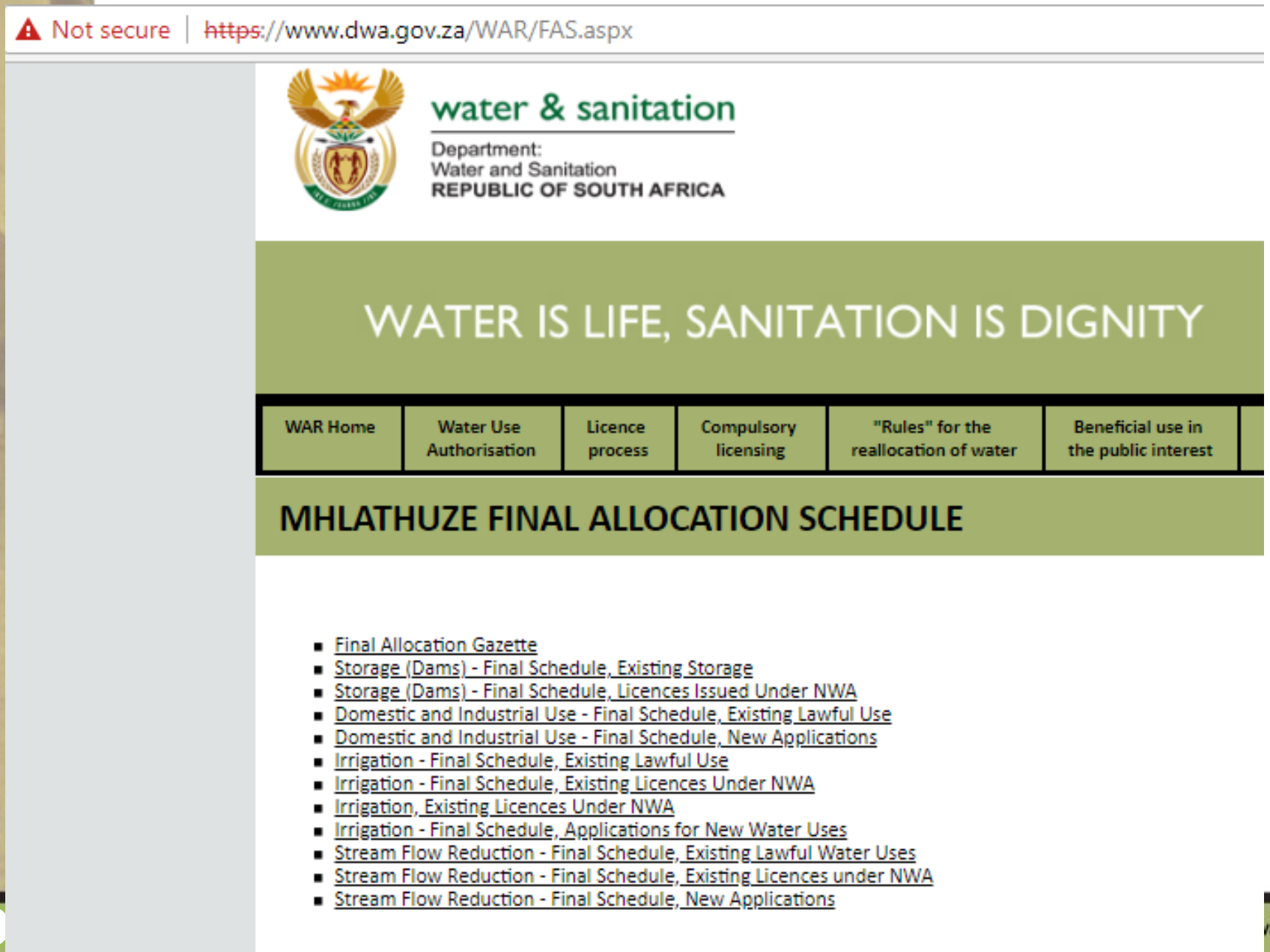
Category	Total Volume (million cubic metres per annum)	Percentage (Total WSA)
Future Allocation	6.2	58%
Government Departments	2.5	23%
Community Cooperatives	1.4	13%
Traditional Authorities	0.6	6%
TOTAL	**10.7**	**100%**

C) Summary of Total Volume of Water Allocated per Sector

Sector	Total Volume (million cubic metres per annum)
Industry	5.74
Commercial/ Domestic	0.18
Municipal	58.73
Mhlathuze water Board	94.48
Mines	14.02
Irrigation	124.41
SFRA (hectares)	55 971
Storage	7.93

312.4

www.dwa.gov.za/WAR/FAS.aspx



GAZETTED:

Volume Set Aside		10.70
BAYSIDE ALUMINIUM	0.34	
MPACT	2.48	
NKWALENI PROCESSORS	0.03	
RICHARDS BAY MINERALS	14.02	
TONGAAT HULETT	2.79	
Mondi Kraft - Richards Bay	49.28	
RBM (Lake Nsezi)	14.78	
City of Mhlatuze for FOSKOR	4.47	
Ticor Hillendale	8.54	96.72
New Applicants: mostly Uthungulu	23.57	
Other municip/commercial existing (10 entries)	5.02	
KZ282 - UMHLATHUZE LOCAL MUNICIPALITY (CITY OF MHLATUZE	2.63	
KZ282 - UMHLATHUZE LOCAL MUNICIPALITY (CITY OF MHLATUZE	6.03	
KZ282 - UMHLATHUZE LOCAL MUNICIPALITY (CITY OF MHLATUZE	21.76	
City of Mhlatuze for Empangeni	5.91	
City of Mhlatuze for Richards Bay	6.57	
City of Mhlatuze for Esikhwaini	4.93	76.42
Irrigation		128.60
TOTAL		**312.4**
MHLATHUZE WATER	94.48	

APPROACH TO UPDATE FUTURE WATER REQUIREMENTS

URBAN:

- Update actual use 2014-2017 per demand centre
- Model future requirements considering:
    - Population growths per demand centre
    - Upgrades in level of service per demand centre
- Compare updated future projections with previous projection assumptions

INDUSTRIAL:

- Update actual use 2014-2017 per large user
- Obtain future requirements from users
- Consider licensed volume of users

IRRIGATION:

- Update actual use 2014-2017
- Cap future growth at updated licensed volumes

Water Requirement Projections

Case 2 (Town/Village - formal and informal)

- LOS assumed to be at a minimum of Above RDP Level by 2030
- 5% increase in Residential Low Income 2016 to 2030 and a further 6% increase by 2040 (total of 11%)
- 2.5% increase in Residential Medium Income from 2016 to 2030 and a further 2.3% increase by 2040 (total of 4.8%)

Category	Dwelling Type	
1	Flats	
2	Clusters	
3	Single Residential	Low Income
4		Medium Income
5		High Income
6		Very High Income
7	Informal	Below RDP Level
8		RDP Level
9		**Above RDP Level**

Water Requirement Projections

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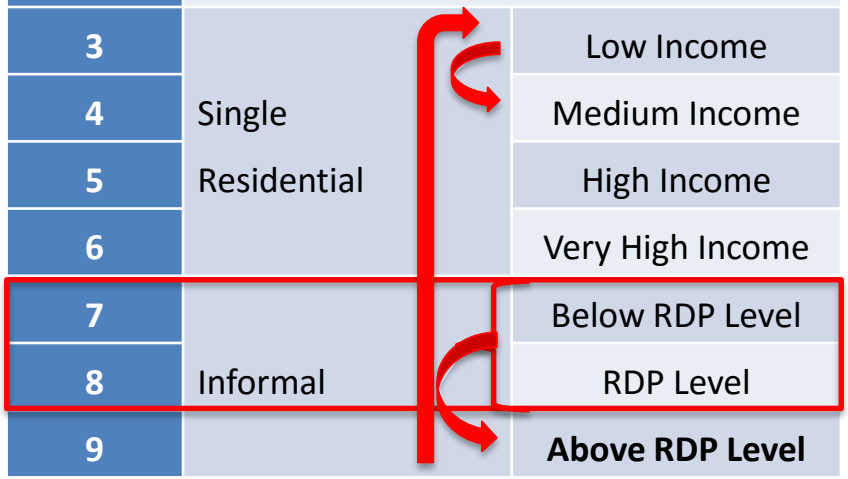

Water Requirement Projections

Case 3 (Village - mostly informal):

- LOS assumed to be at a minimum of RDP Level by 2030.
- 5% increase in Above RDP Level by 2016 to 2030 and a further 6.7% increase by 2040 (total of 11.7%)
- 2.5% increase in Residential Low Income from 2016 to 2030 and a further 3% increase by 2040 (total of 5.5%)

Category	Dwelling Type	
1	Flats	
2	Clusters	
3	Single Residential	Low Income
4		Medium Income
5		High Income
6		Very High Income
7		Below RDP Level
8	Informal	**RDP Level**
9		**Above RDP Level**

59

Water Requirement Projections

Case 3 (Village - mostly informal):

- LOS assumed to be at a minimum of RDP Level by 2030.
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- 2.5% increase in Residential Low Income from 2016 to 2030 and a further 3% increase by 2040 (total of 5.5%)

Category	Dwelling Type	
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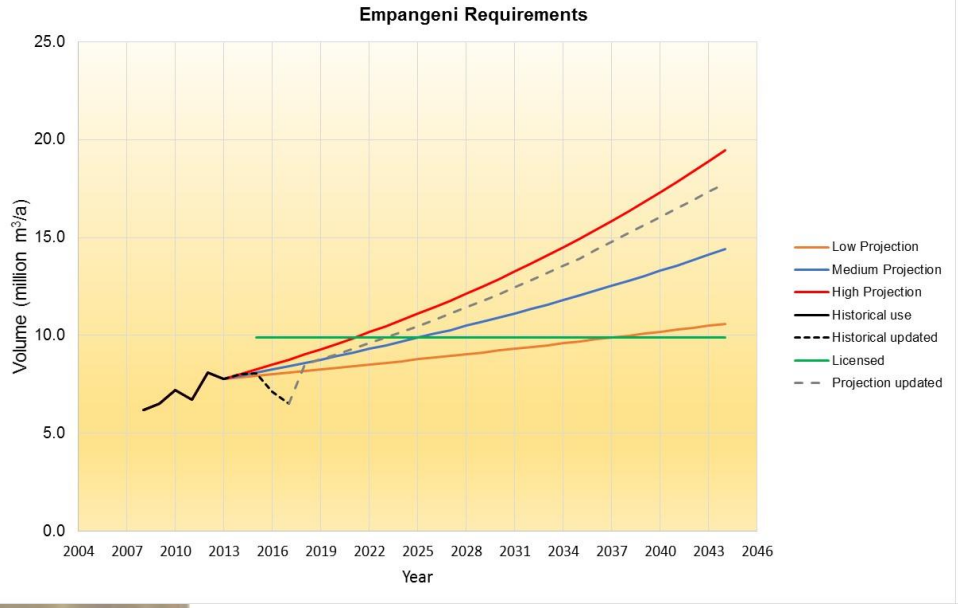
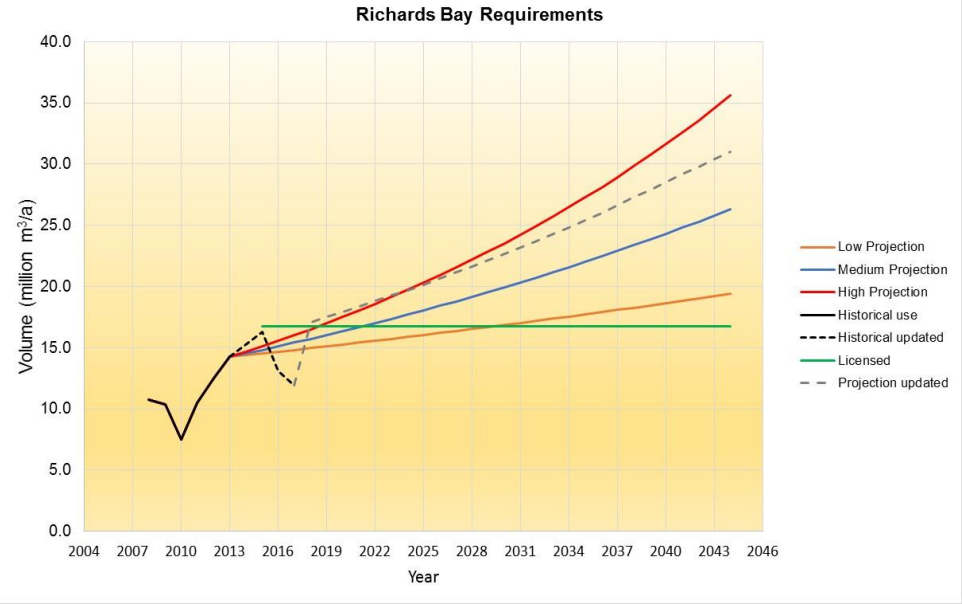
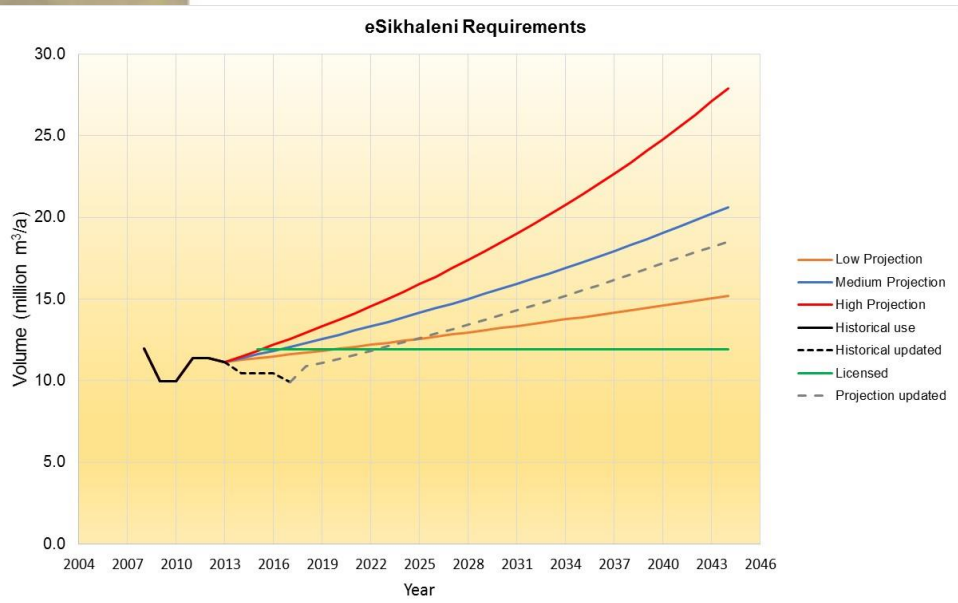
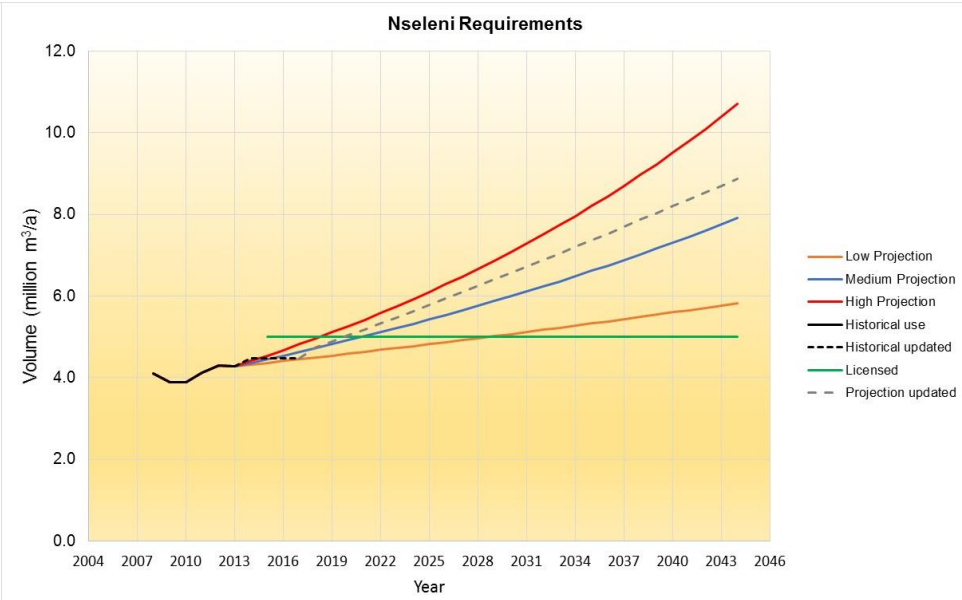
9		**Above RDP Level**

WATER REQUIREMENTS PER MAJOR USER: URBAN

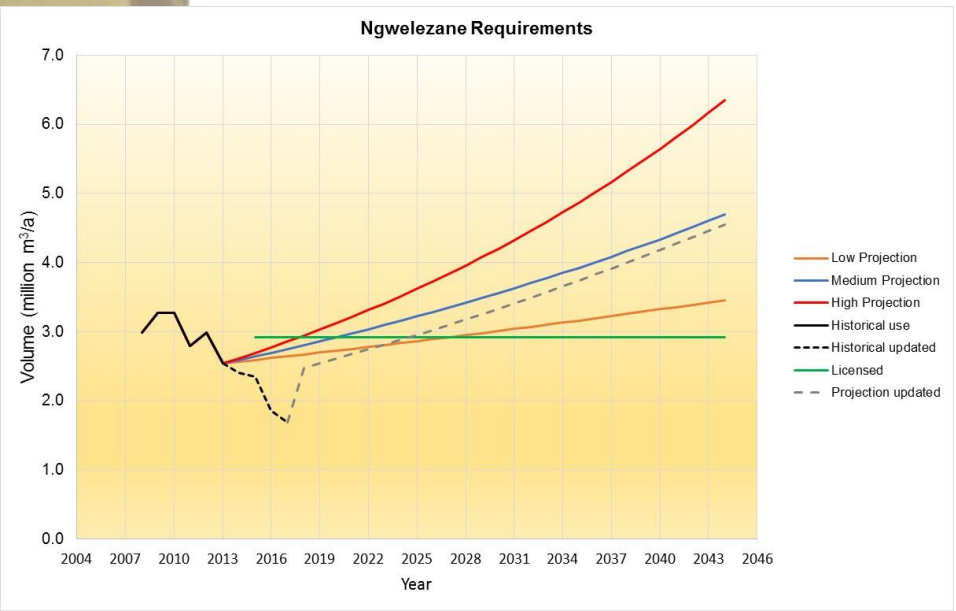


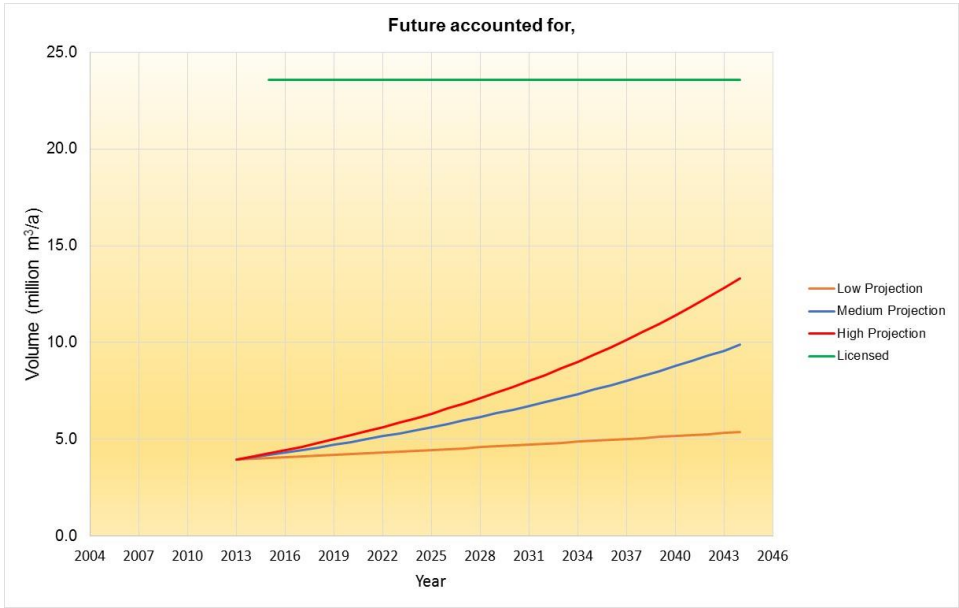


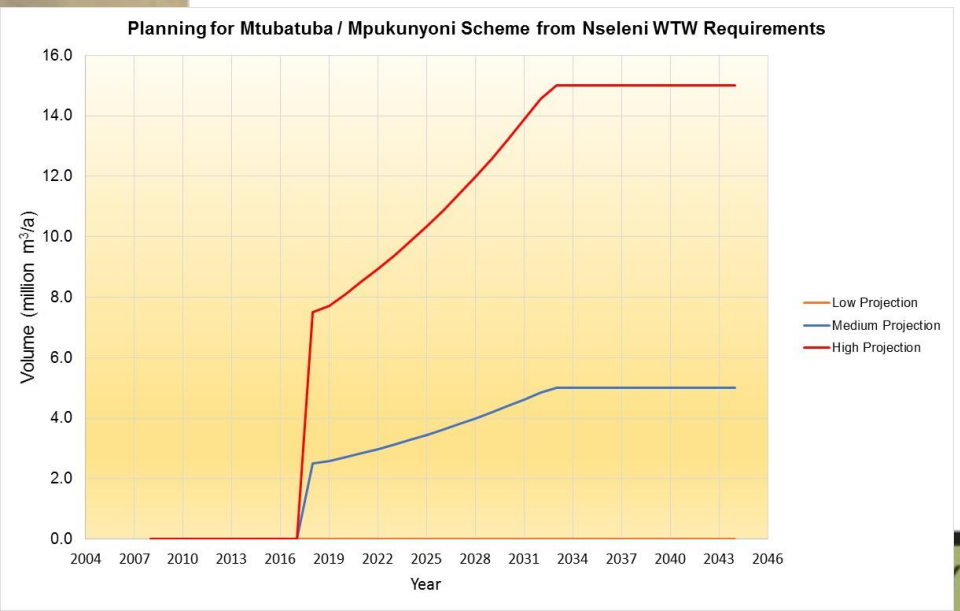




WATER REQUIREMENTS PER MAJOR USER: URBAN





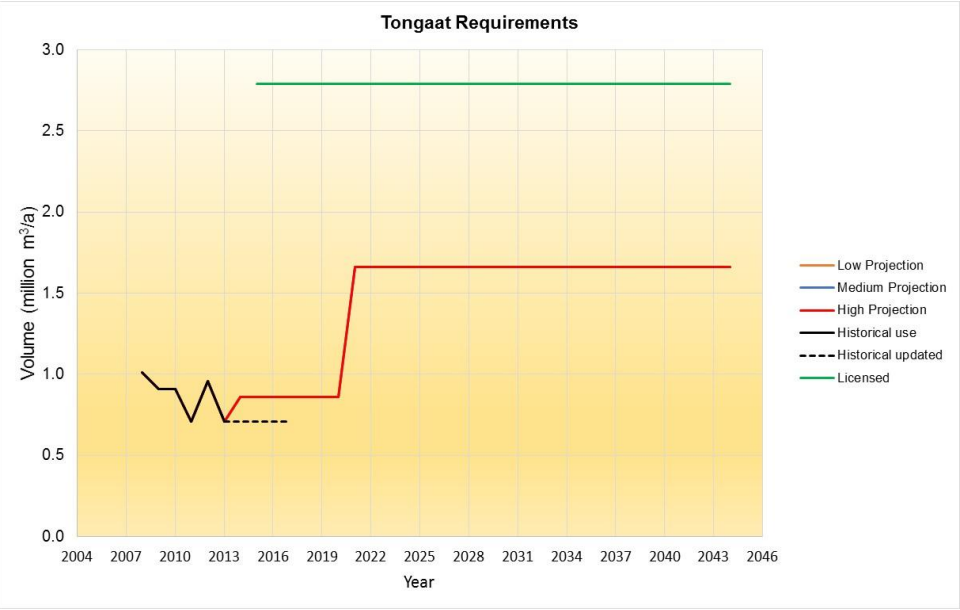


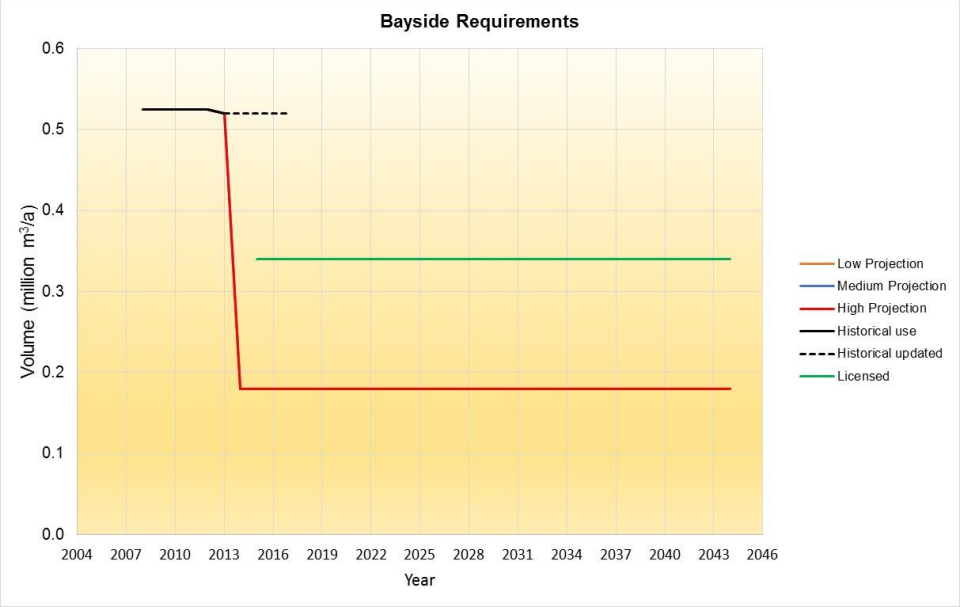
Awaiting data from DM for:

- Eshowe
- Mtunzini
- Melmoth
- Gingindlovu
- Amatikulu

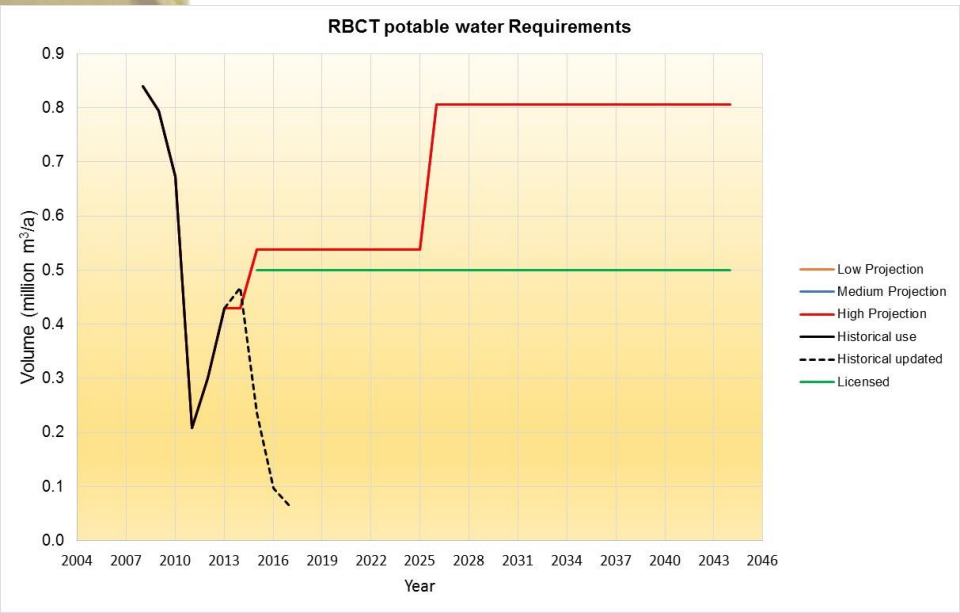
WATER REQUIREMENTS PER MAJOR USER: INDUST

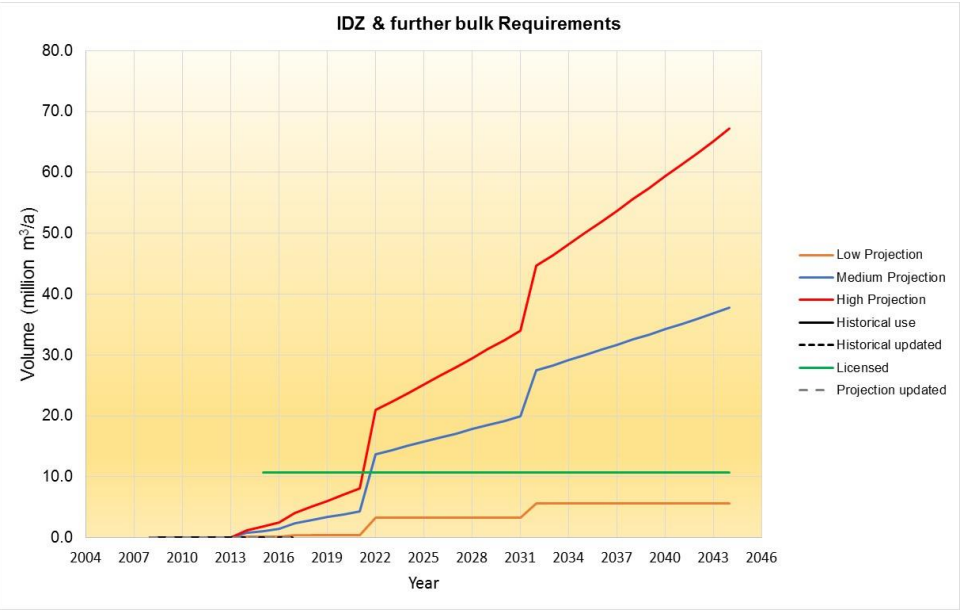
WATER REQUIREMENTS PER MAJOR USER: INDUST





WATER REQUIREMENTS PER MAJOR USER: INDUST



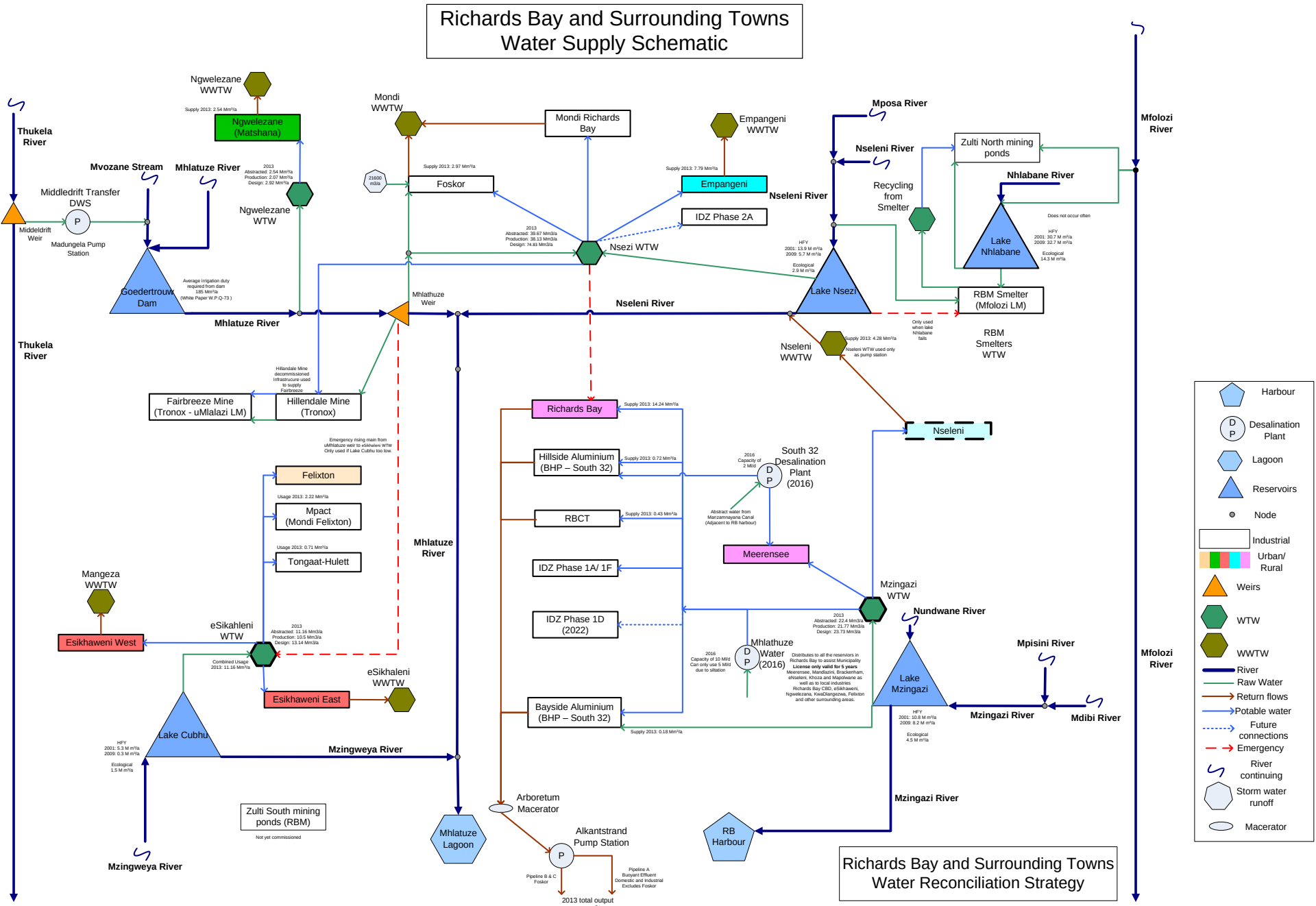


WATER REQUIREMENTS PER MAJOR USER: IRRIGATION

WAY FORWARD

- Obtain outstanding information on urban - industrial actual use 2014-2017
- Obtain improved information on irrigation actual use: considering drought
- Confirm individual users future growth in requirement needs
- Define future water requirement scenarios for later use in water balance

SCHEMATIC LAYOUT



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

IMPLEMENTATION AND MAINTENANCE OF THE WATER RECONCILIATION STRATEGY FOR RICHARDS BAY AND SURROUNDING TOWNS

Item 10: Discussion and Comments

Wednesday, 1 August 2018

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

IMPLEMENTATION AND MAINTENANCE OF THE WATER RECONCILIATION STRATEGY FOR RICHARDS BAY AND SURROUNDING TOWNS

Item 11: Communication and Confirmation of StraSC Membership

Wednesday, 1 August 2018

Communication

- A StraSC meeting will be held ± 6 months
- After each meeting StraSC members will be provided with:
  - Minutes of the StraSC meeting
  - Media release
- As members of the StraSC your responsibility is to:
  - Disseminate information into the relevant departments / organisations
  - Incorporate strategies' recommendations into development plans
- Web site: Please visit: http://www.dwa.gov.za/projects.aspx for all project related information

StraSC membership

- ± 130 stakeholders on the database
- Please check/update hard copy in front
- Representative of all relevant sectors in the study area – refer to Terms of Reference

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

IMPLEMENTATION AND MAINTENANCE OF THE WATER RECONCILIATION STRATEGY FOR RICHARDS BAY AND SURROUNDING TOWNS

Item 12: Date of Next Meeting

Wednesday, 1 August 2018

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

IMPLEMENTATION AND MAINTENANCE OF THE WATER RECONCILIATION STRATEGY FOR RICHARDS BAY AND SURROUNDING TOWNS

Item 13: Way Forward and Closure

Wednesday, 1 August 2018