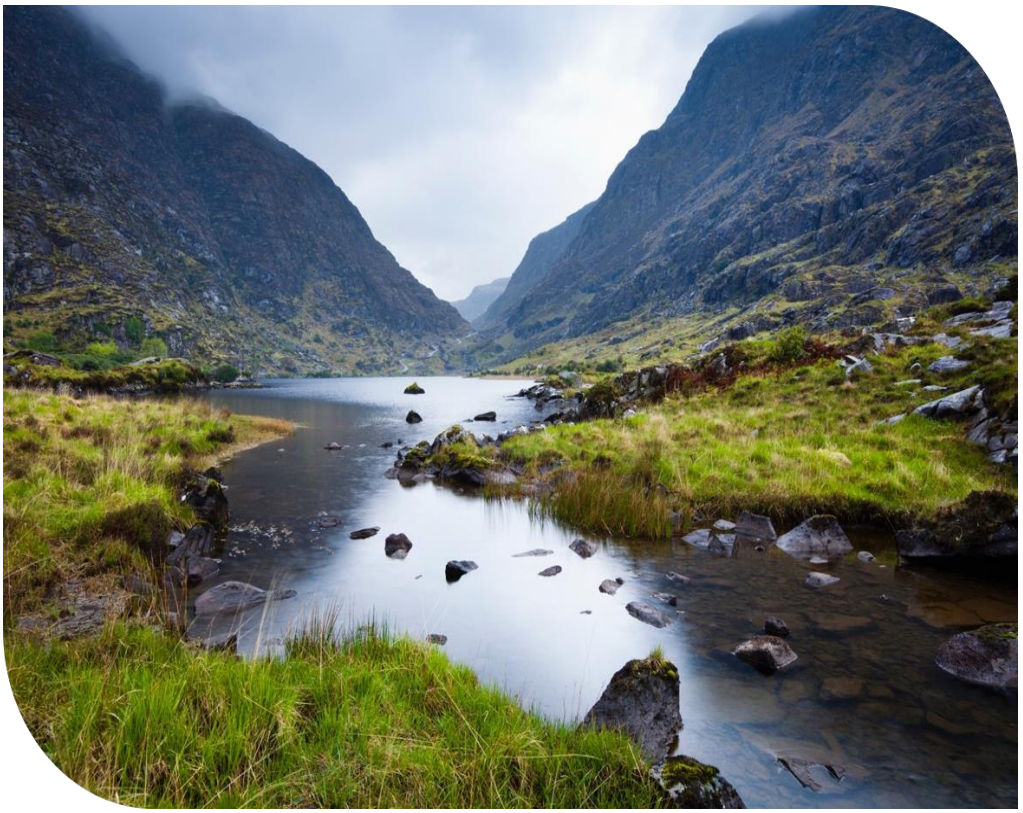
Autumn 2022

Regional Water Resources Plan – Eastern and Midlands

Appendix 10 Supply Demand Balance Summaries for the GDA, Merged WRZs in the Eastern and Midlands Regional Preferred Approach



Tionscadal Éireann
Project Ireland
2040

Data disclaimer: This document uses best available data at time of writing. Some sources may have been updated in the interim period. As data relating to population forecasts and trends are based on information gathered before the Covid-19 pandemic, monitoring and feedback will be used to capture any updates. The National Water Resources Plan will also align to relevant updates in applicable policy.

Baseline data included in the draft RWRP-EM has been incorporated from numerous sources including but not limited to; National Planning Framework, Central Statistics Office, Regional Spatial and Economic Strategies, Local Authority data sets, Regional Assembly data sets and Irish Water data sets. Data sources will be detailed in the relevant sections of the draft RWRP-EM. 2019 was selected as the base year to align with the planning period (2019-2025) of the NWRP.

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1.1 Introduction

This Appendix contains summary Supply Demand Balance (SDB) information for each of the Water Resource Zones in the Eastern and Midlands Region that are proposed to be merged as a result of the Preferred Approach.

The SDB information of these merged zones is presented in the following tables, superseding the information in Appendix L of the Framework Plan. For all Water Resource Zones that are not being merged the SDB position remains as presented in Appendix L of the Framework Plan.

Figure 1.1 below shows the Supply Demand Balance data we are presenting for each Water Resource Zone. Table 1.1 provides the Framework Plan references for each component identified in Figure 1.1 that explains how they are calculated.

We have also provided an updated SDB for the GDA as we have updated leakage targets and there was a typo noted in the DYAA WAFU figure in the SDB provided in Appendix L of the Framework Plan.

Table 1.1 - Supply Demand Balance Volume 1 Report Reference

Supply Demand Balance Component	Volume 1 Report Section
Supply Components	
Hydrological Yield	3.2
Deployable Output	3.4
Outage	3.5
Water Available for Use	3.6 & 3.7
Demand Components	
Baseline Demand	4.2
Leakage	4.3.3
Headroom	4.4
Weather Event Planning Scenarios	4.6

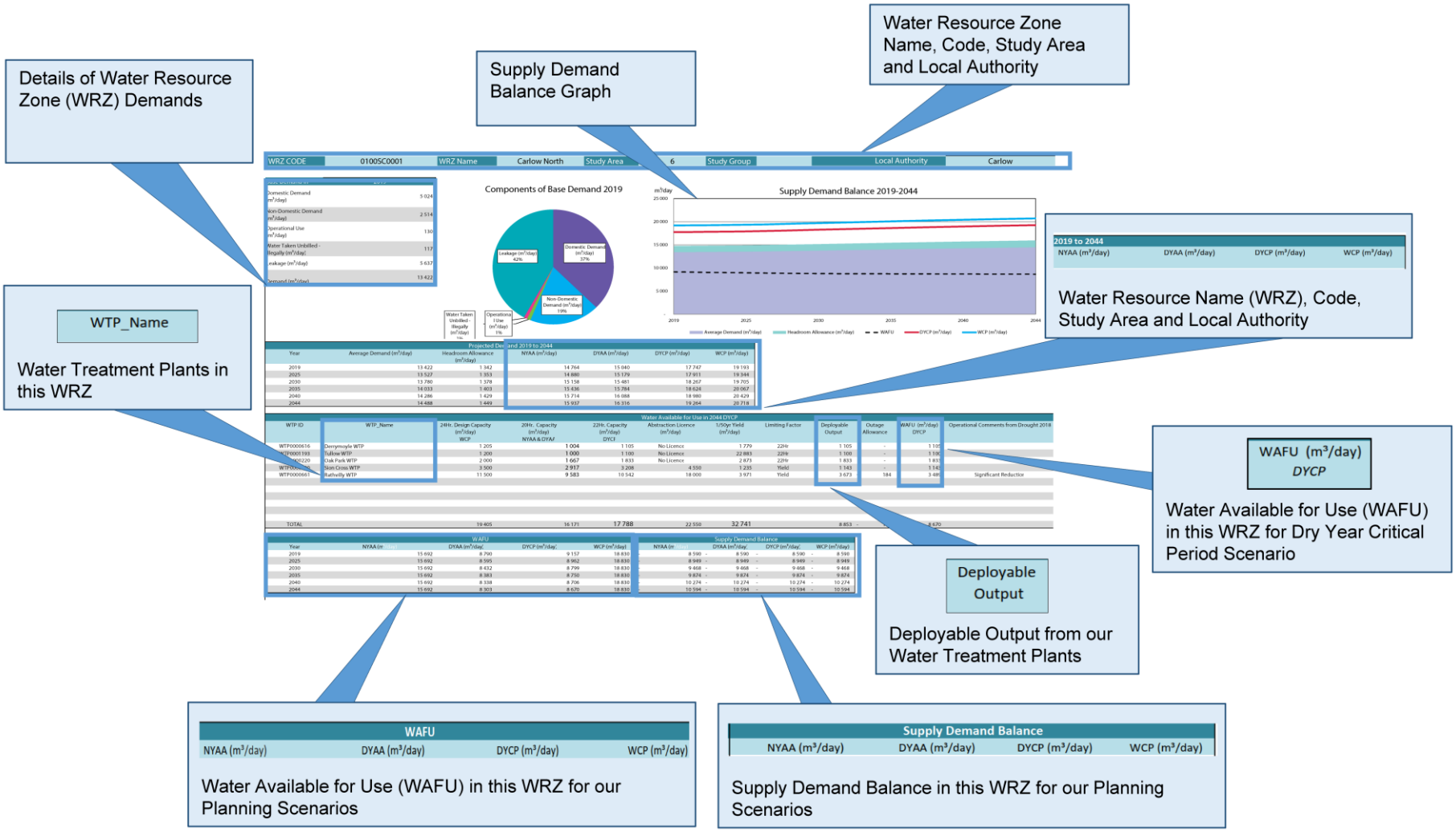


Figure 1.1 Water Resource Zone Supply Demand Balance Information

1.2 Supply Demand Balance Information

Table 1.2 lists the Water Resource Zones Supply Demand Balance Information is provided for in this appendix.

Table 1.2 - Water Resource Zones Supply Demand Balance Information

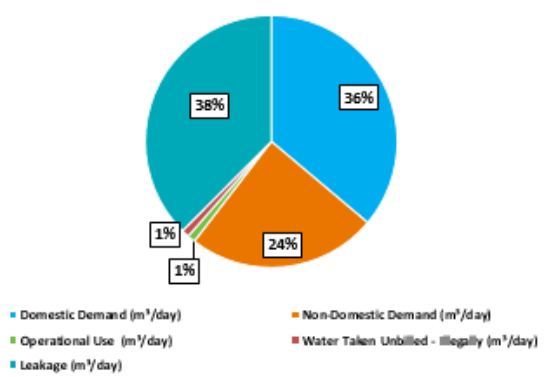
Existing Zone	Local Authority	Water Resource Zone Name	New Zone Name
3200SC0003	Westmeath	Ballany	Mullingar Regional
2000SC0003	Longford	Ballymahon	
3200SC0001	Westmeath	Mullingar Regional	
2300SC0012	Meath	Clonard/ Abbeysfields Housing Estate	
2300SC0016	Meath	Longwood WS	
2300SC0018	Meath	Enfield WS	
1400SC0004	Kildare	Ardcarraig Clogherinkoe	
2500SC0004	Offaly	Geashill	
2500SC0005	Offaly	Edenderry & Rhode	
2500SC0014	Offaly	Daingean	
2500SC0006	Offaly	Walsh Island	
2500SC0010	Offaly	Dunkerrin / Moneygall	Dunkerrin / Moneygall / Borrisokane
2900SC0045	Tipperary	Borrisokane	
2900SC0046	Tipperary	Cloughjordan	
2500SC0002	Offaly	Tullamore	Tullamore /

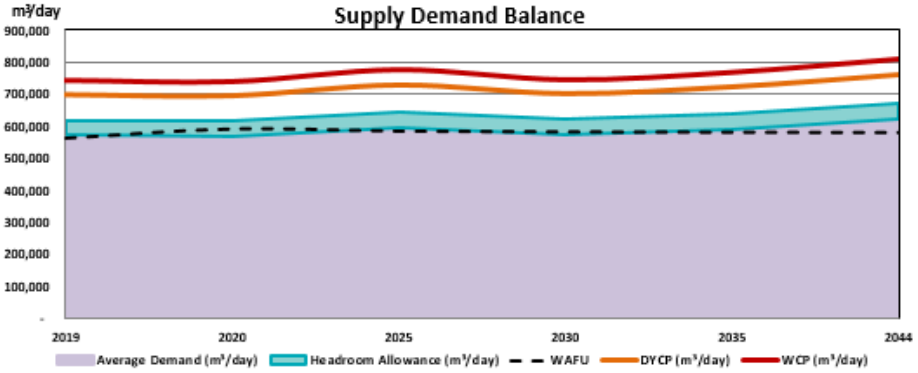
2500SC0013	Offaly	Mountbolus PWS	Mountbolous
2900SC0066	Tipperary	Newport RWSS	Newport / Killaloe
0300SC0024	Clare	Killaloe	
3400SC0007	Wicklow	Avoca Ballinaclash Public Supply	GDA Regional
3400SC0017	Wicklow	Barndarrig Public Supply	
3400SC0012	Wicklow	Redcross Conary Public Supply	
3400SC0025	Wicklow	Ballinteskin Public Supply	
3400SC0046	Wicklow	Rathdrum Public Supply	
3400SC0047	Wicklow	Laragh Annamoe Public Supply	
3400SC0027	Wicklow	Ballinapark Public Supply	
3400SC0004	Wicklow	Dunlavin Public Supply	
3400SC0005	Wicklow	Hollywood Donard Public Supply	
0100SC0005	Carlow	Hacketstown	
2100SC0001	Louth	South Louth & East Meath	
2300SC0005	Meath	Kells-Oldcastle	
2300SC0006	Meath	Athboy	

2300SC0007	Meath	Ballivor	
2300SC0011	Meath	Kilmessan	
2300SC0014	Meath	Trim	
2300SC0055	Meath	Navan-Mid Meath	
0100SC0001	Carlow	Carlow North	

WRZ CODE	GDA	WRZ Name	Greater Dublin Area	Study Area	9	Study Group	

Base Demand	2019
Domestic Demand (m³/day)	206,866
Non-Domestic Demand (m³/day)	139,309
Operational Use (m³/day)	5,706
Water Taken Unbilled - Illegally	5,705
Leakage (m³/day)	214,829
Demand	**572,416**





Projected Demand's 2019 to 2044

Year	Average Demand (m³/day)	Headroom Allowance (m³/day)	NYAA (m³/day)	DYAA (m³/day)	DYCP (m³/day)	WCP (m³/day)
2019	572,416	45,793	618,209	629,787	696,691	741,851
2020	569,481	45,558	615,040	626,715	693,303	738,048
2025	597,630	47,810	645,441	658,435	728,400	774,529
2030	573,812	45,905	619,717	632,937	700,196	743,660
2035	591,323	47,306	638,628	653,031	722,426	766,354
2044	622,993	49,839	672,832	688,855	762,492	807,398

Water Available for Use in 2044 DYCP

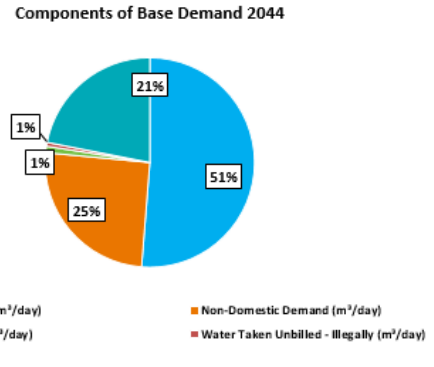
WTP ID	WTP_Name	24Hr. Design Capacity (m³/day) *WCP*	20Hr. Capacity (m³/day) *NYAA & DYAA*	22Hr. Capacity (m³/day)	Abstraction Licence (m³/day)	1/50yr Yield (m³/day)	Limiting Factor	Deployable Output	Outage Allowance	WAFU (m³/day) *DYCP*	Operational Comments from Drought
WTP0000688	Roundwood Well WTP	360	300	330	No Licence						
WTP0000424	Glenealy WTP	180	150	165	No Licence						
WTP0000581	Cronroe WTP	1,200	1,000	1,100	No Licence						
WTP0000822	Srowland WTP	38,000	31,667	34,833	40,000						
WTP0001220	Rathangan Wellfields WTP	5,000	4,167	4,583	5,000						
WTP0001004	Monasterevin (Ballykelly) WTP	3,200	2,667	2,933	2,000						
WTP0000302	Bog of the Ring WTP	3,000	2,500	2,750	3,000						
WTP0000110	Leixlip WTP	235,000	195,833	215,417	No Licence						
WTP0000012	Vartry WTP	75,000	62,500	68,750	No Licence						
WTP0000150	Ballyboden WTP	14,000	11,667	12,833	No Licence						
WTP0000267	Ballymore Eustace WTP	312,000	260,000	286,000	No Licence						
WTP1000006	Brittas WTP	120	100	110	No Licence						

Please Refer to Section 3.5 of the draft Framework Plan document for details on Allowance for Outage and Section 1.4.5 of Appendix C for further details on the Aquator model.

Year	WAFU				Supply Demand Balance			
	NYAA (m³/day)	DYAA (m³/day)	DYCP (m³/day)	WCP	NYAA (m³/day)	DYAA	DYCP	WCP (m³/day)
2019	570,501	515,501	564,501	595,000	- 47,709	- 114,287	- 132,190	- 146,851
2025	598,501	538,501	589,501	629,000	- 46,940	- 119,934	- 138,899	- 145,529
2030	594,501	532,501	583,501	629,000	- 25,216	- 100,436	- 116,695	- 114,660
2035	593,501	531,501	581,501	629,000	- 45,128	- 121,531	- 140,925	- 137,354
2040	592,501	529,501	580,501	629,000	- 65,217	- 143,879	- 164,280	- 160,260
2044	592,501	528,501	579,501	629,000	- 80,332	- 160,354	- 182,991	- 178,398

WRZ CODE	3200SC0001	WRZ Name	Mullingar Regional	Study Area	4	Study Group	TG 4	Local Authority	Westmeath

Base Demand	2044
Domestic Demand (m^3/day)	14,140
Non-Domestic Demand (m^3/day)	6,961
Operational Use (m^3/day)	273
Water Taken Unbilled - Illegally	164
Leakage (m^3/day)	6,045
Demand	**27,583**

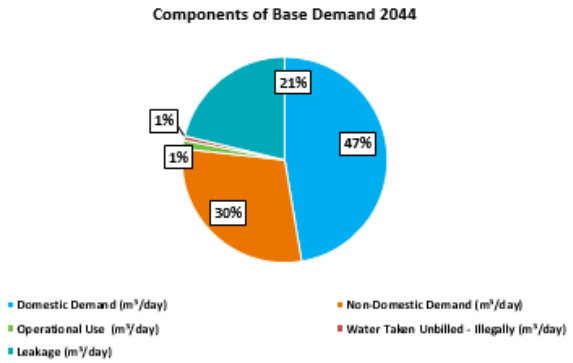


Projected Demand's 2019 to 2044						
Year	Average Demand (m^3/day)	Headroom Allowance (m^3/day)	NYAA (m^3/day)	DYAA (m^3/day)	DYCP (m^3/day)	WCP (m^3/day)
2044	27,583	2,758	30,341	31,063	36,675	39,443

Water Available for Use in 2044 DYCP											
WTP ID	WTP_Name	24Hr. Design Capacity (m^3/day) *WCP*	20Hr. Capacity (m^3/day) *NYAA & DYAA*	22Hr. Capacity (m^3/day) *DYCP*	Abstraction Licence (m^3/day)	1/50yr Yield (m^3/day)	Limiting Factor	Deployable Output	Outage Allowance	WAFU (m^3/day) *DYCP*	Operational Comments from Drought 2018
All WTP to be decommissioned											

WRZ CODE	DBM	WRZ Name	Dunkerrin / Moneygall/Borrisokane	Study Area	6	Study Group	TG 4	Local Authority	

Base Demand	2044
Domestic Demand (m³/day)	798
Non-Domestic Demand (m³/day)	495
Operational Use (m³/day)	22
Water Taken Unbilled - Illegally	12
Leakage (m³/day)	358
Demand	**1,684**



Projected Demand's 2019 to 2044

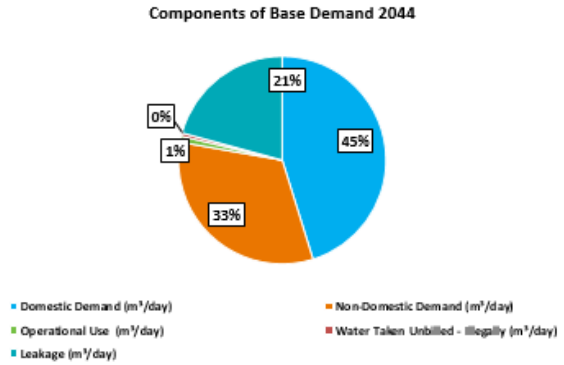
Year	Average Demand (m³/day)	Headroom Allowance (m³/day)	NYAA (m³/day)	DYAA (m³/day)	DYCP (m³/day)	WCP (m³/day)
2044	1,684	341	2,612	2,674	3,157	3,657

Water Available for Use in 2044 DYCP

WTP ID	WTP_Name	24Hr. Design Capacity (m³/day) *WCP*	20Hr. Capacity (m³/day) *NYAA & DYAA*	22Hr. Capacity (m³/day)	Abstraction Licence (m³/day)	1/50yr Yield (m³/day)	Limiting Factor	Deployable Output	Outage Allowance	WAFU (m³/day) *DYCP*	Operational Comments from Drought
All WTP to be decommissioned											

WRZ CODE	2500SC0002	WRZ Name	Tullamore/Mountbolous	Study Area	6	Study Group	TG 4	Local Authority	Offaly

Base Demand	2044
Domestic Demand (m³/day)	3,079
Non-Domestic Demand (m³/day)	2,219
Operational Use (m³/day)	63
Water Taken Unbilled - Illegally	35
Leakage (m³/day)	1,415
Demand	**6,811**



Projected Demand's 2019 to 2044

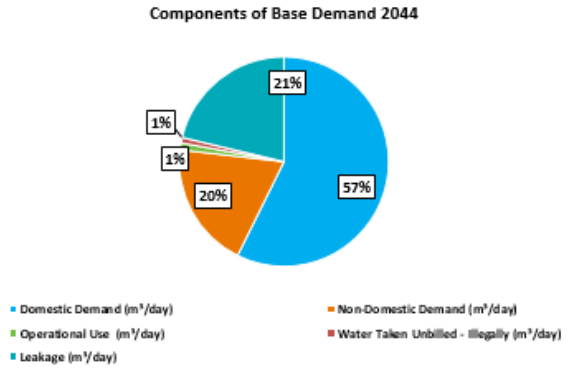
Year	Average Demand (m³/day)	Headroom Allowance (m³/day)	NYAA (m³/day)	DYAA (m³/day)	DYCP (m³/day)	WCP (m³/day)
2044	6,811	958	7,342	7,517	8,875	10,279

Water Available for Use in 2044 DYCP

WTP ID	WTP_Name	24Hr. Design Capacity (m³/day) *WCP*	20Hr. Capacity (m³/day) *NYAA & DYAA*	22Hr. Capacity (m³/day)	Abstraction Licence (m³/day)	1/50yr Yield (m³/day)	Limiting Factor	Deployable Output	Outage Allowance	WAFU (m³/day) *DYCP*	Operational Comments from Drought
All WTP to be decommissioned											

WRZ CODE	NK	WRZ Name	Newport RWSS/Killaloe	Study Area	8	Study Group	TG 4	Local Authority	

Base Demand	2044
Domestic Demand (m³/day)	1,497
Non-Domestic Demand (m³/day)	509
Operational Use (m³/day)	28
Water Taken Unbilled - Illegally	22
Leakage (m³/day)	556
Demand	**2,611**



Projected Demand's 2019 to 2044

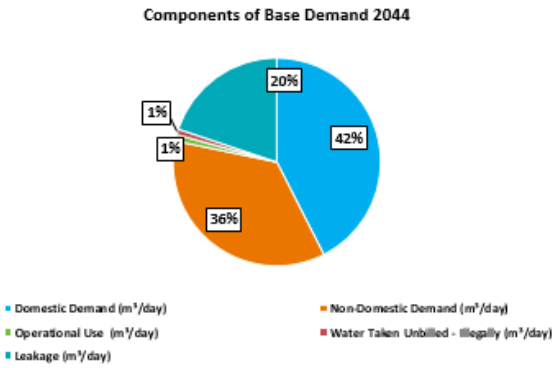
Year	Average Demand (m³/day)	Headroom Allowance (m³/day)	NYAA (m³/day)	DYAA (m³/day)	DYCP (m³/day)	WCP (m³/day)
2044	2,611	423	3,240	3,317	3,916	4,536

Water Available for Use in 2044 DYCP

WTP ID	WTP_Name	24Hr. Design Capacity (m³/day) *WCP*	20Hr. Capacity (m³/day) *NYAA & DYAA*	22Hr. Capacity (m³/day)	Abstraction Licence (m³/day)	1/50yr Yield (m³/day)	Limiting Factor	Deployable Output	Outage Allowance	WAFU (m³/day) *DYCP*	Operational Comments from Drought
All WTP to be decommissioned											

WRZ CODE	GDA Regional	WRZ Name	GDA Regional	Study Area	Multiple	Study Group	TG 4	Local Authority	Multiple

Base Demand	2044
Domestic Demand (m³/day)	291,441
Non-Domestic Demand (m³/day)	245,079
Operational Use (m³/day)	6,780
Water Taken Unbilled - Illegally	6,027
Leakage (m³/day)	136,200
Demand	**685,526**



Projected Demand's 2019 to 2044

Year	Average Demand (m³/day)	Headroom Allowance (m³/day)	NYAA (m³/day)	DYAA (m³/day)	DYCP (m³/day)	WCP (m³/day)
2044	685,526	54,842	740,368	757,999	839,027	888,441

Water Available for Use in 2044 DYCP

WTP ID	WTP_Name	24Hr. Design Capacity (m³/day) *WCP*	20Hr. Capacity (m³/day) *NYAA & DYAA*	22Hr. Capacity (m³/day)	Abstraction Licence (m³/day)	1/50yr Yield (m³/day)	Limiting Factor	Deployable Output	Outage Allowance	WAFU (m³/day) *DYCP*	Operational Comments from Drought
WTP0000700	Sion Cross WTP	3,500	2,917	3,208	4,550	**1,235**	Yield	**1,143**	-	**1,143**	
WTP0000220	Oak Park WTP	2,000	1,667	1,833	No Licence	**2,873**	22Hr	**1,833**	-	**1,833**	
WTP0001193	Tullow WTP	1,200	1,000	1,100	No Licence	**47,356**	22Hr	**1,100**	-	**1,100**	
WTP0000661	Rathvilly WTP	11,500	9,583	10,542	18,000	**3,971**	Yield	**3,673**	- **184**	**3,489**	
WTP0000616	Derrymoyle WTP	1,205	1,004	1,105	No Licence	**1,779**	22Hr	**1,105**	-	**1,105**	
WTP0000716	Staleen WTP	34,415	28,679	31,547	No Licence	**150,636**	22Hr	**31,547**	- **1,577**	**29,970**	
WTP0000664	Curragha WTP	1,200	1,000	1,100	No Licence	**2,735**	22Hr	**1,100**	-	**1,100**	
WTP0000378	Dunshaughlin WTP	3,600	3,000	3,300	No Licence	**4,981**	22Hr	**3,300**	-	**3,300**	
WTP0001138	Kiltrough WTP	3,000	2,500	2,750	No Licence	**5,555**	22Hr	**2,750**	-	**2,750**	
WTP0000267	Ballymore Eustace WTP	312,000	260,000	286,000	No Licence	-	Yield				
WTP0000150	Ballyboden WTP	14,000	11,667	12,833	No Licence	-	Yield				
WTP0000012	Vartry WTP	75,000	62,500	68,750	No Licence	-	Yield				
WTP0000110	Leixlip WTP	235,000	195,833	215,417	No Licence	**47,656**	Yield				
WTP0000302	Bog of the Ring Water WTP	3,000	2,500	2,750	3,000	**2,466**	Yield				
WTP0001004	Monasterevin WTP	3,200	2,667	2,933	2,000	**1,726**	Yield				
WTP0001220	Rathangan Wellfields WTP	5,000	4,167	4,583	5,000	**3,352**	Yield				
WTP0000822	Srowland WTP	38,000	31,667	34,833	40,000	**147,190**	22Hr				
WTP0000581	Cronroe WTP	1,200	1,000	1,100	No Licence	-	Yield				
WTP0000424	Glenealy WTP	180	150	165	No Licence	**181**	22Hr				
WTP0000688	Roundwood Well WTP	360	300	330	No Licence	**192**	Yield				

GDA WAFU is calculated in the Aquator model, taking account compensation flows and other hydraulic and regulaor limitations on the operation of the GDA WTPs.