

Spring 2023



Draft Regional Water Resources Plan—South West

Irish Water's 25 Year Plan for Our Water Assets



Tionscatal Éireann
Project Ireland
2040

Data disclaimer: This document uses best available data at time of writing. 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 (NWRP) will also align to relevant updates in applicable policy. In December 2022, the Water Services (Amendment) (No. 2) Act, 2022 was signed into law. This act legislates that from the 31 December 2022, Irish Water will only be known as Uisce Éireann. It also provides that, from that date, all references in any enactment, legal proceedings or other document to Irish Water shall be construed as references to Uisce Éireann only. Therefore, in this Regional Plan, which was developed prior to the name change, all references to Irish Water shall be construed as Uisce Éireann.

Baseline data included in the RWRP-SW 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 RWRP-SW. 2019 was selected as the base year to align with the planning period (2019-2025) of the NWRP.

Copyright © Ordnance Survey Ireland. Licence number EN 0094521.

Table of Contents

1	Planning Context	1
1.1	Introduction	2
1.2	Who We Are	3
1.3	Water Supply in the South West Region	3
1.4	Development of the National Water Resources Plan	4
1.5	RWRP-SW	7
1.6	Scoping and Screening for the South West Region	8
1.7	Study Areas	8
1.8	Overview of RWRP-SW	9
1.9	Strategic Environmental Assessment and Appropriate Assessment	10
1.10	Summary of Policy	11
1.11	Stakeholder Engagement and Consultation on the RWRP	11
1.12	Baseline Data	13
1.13	Summary	13
1.14	References	13
2	South West Region	14
2.1	Introduction	15
2.1.1	Regional Overview	15
2.1.2	Study Areas in the RWRP-SW	16
2.2	Growth and Development	17
2.2.1	Current Population	17
2.2.2	Growth and Economic Development Policies	18
2.2.3	Population Forecasts in the RWRP-SW	20
2.2.4	Tourism and Recreation	22
2.2.5	Impact of the Covid-19 Pandemic	23
2.3	Natural Resources	23
2.3.1	Geology	24
2.3.2	Groundwater Aquifers	25
2.3.3	Surface Water Systems	27
2.3.4	Groundwater – Surface Water Interaction	29
2.3.5	WFD ‘Ecological Status’ of Waterbodies	29
2.3.6	WFD ‘Risk Status’ of Water Bodies and Associated Pressures	33
2.3.7	Abstraction Pressures	35
2.3.8	Designated Sites in the RWRP South West Region	38
2.3.9	Opportunities for Protection, Restoration and Enhancement	40
2.4	Water Supply	42
2.4.1	Rainfall	42
2.4.2	Drought	43
2.4.3	Flood Risk	45
2.4.4	Water Supply Systems	47
2.4.5	Climate Change	48
2.5	Summary	54
2.6	References	56

3	Regional Needs	58
3.1	Introduction	59
3.2	Water Quantity	62
3.2.1	Introduction	62
3.2.2	Current Water Supply	66
3.2.3	Hydrological Yield	69
3.2.4	Current and Future WAFU	71
3.2.5	Current Demand	74
3.2.6	Demand Forecast	76
3.2.7	Supply and Demand Balance	83
3.2.8	Summary	91
3.3	Water Quality	92
3.3.1	Compliance with EPA Regulations	94
3.3.2	Barrier Assessment – DWSP Approach	95
3.3.3	Barrier Assessment – Summary	96
3.4	Water Supply Reliability	99
3.5	Water Supply Sustainability	100
3.6	Summary	103
3.7	References	104
4	Current Status of Infrastructure	105
4.1	Introduction	106
4.2	National Investment Programmes	106
4.3	Progress in the South West Region	107
4.3.1	National Investment Programmes	107
4.3.2	Identification of Critical Infrastructure Projects	108
4.3.3	Completed Critical Infrastructure Projects	108
4.3.4	In-Flight Critical Infrastructure Projects	110
4.4	Summary	111
4.5	Conclusions	111
4.6	References	112
5	Solutions – Our Approach	113
5.1	Introduction	114
5.2	Lose Less: Leakage Reduction	115
5.2.1	Three Step Leakage Reduction	116
5.2.2	Leakage Targets and Demand Forecasting	118
5.2.3	Challenges in Meeting Leakage Reduction Targets	119
5.2.4	Leakage Reduction in Cork City	120
5.3	Use Less: Water Conservation	122
5.4	Supply Smarter	126
5.5	Summary	127
5.6	References	127
6	Option Development	128
6.1	Introduction	129
6.1.1	Option Scale	129
6.1.2	Option Development Process	134
6.1.3	Unconstrained Options	134
6.2	Option Screening	137

6.2.1 Coarse Screening	137
6.2.2 Fine Screening	139
6.2.3 Rejection Summary	141
6.3 Feasible Options	141
6.3.1 Feasible Option Types	141
6.3.2 Option Costing	144
6.4 Project Level Summary	145
6.4.1 Data Review	145
6.4.2 Project Development	146
6.4.3 Project Level Assessments	146
6.4.4 Next Steps	147
6.5 Summary	147
6.6 References	148
7 Preferred Approach – Study Area	149
7.1 Introduction	150
7.2 Approach Development Process	151
7.2.1 Approach Categories	151
7.2.2 Approach Ranking and Appraisal	153
7.2.3 Stage 1 – WRZ Level Approach	156
7.2.4 Stage 2 – Study Area Combinations	166
7.2.5 Stage 3 – Study Area Level Preferred Approach	170
7.3 WRZ Level Approach and SA Preferred Approach	177
7.3.1 Approach Description	177
7.3.2 Assessment against the Six Approach Categories	182
7.3.3 Cost Comparison	186
7.4 SA Preferred Approach	187
7.4.1 Water Supply Sources	187
7.4.2 Changes to Existing Infrastructure	189
7.4.3 Addressing Leakage	197
7.4.4 Addressing Water Quality	199
7.4.5 Environmental Sustainability	199
7.5 SA Preferred Approach Summaries	206
7.5.1 Study Area H – Kerry	207
7.5.2 Study Area I – Cork/South Kerry	209
7.5.3 Study Area J – North Cork and West Waterford	211
7.6 Review of Preferred Approaches arising from Consultation	213
7.6.1 Whiddy Island (Study Area I)	213
7.6.2 Kenmare (Study Area I)	213
7.7 Interim Solutions	214
7.8 Sensitivity Analysis	215
7.9 Summary	218
7.10 References	219
8 Preferred Approach - Regional	220
8.1 Introduction	221
8.2 Limitations to the Development of a Regional Interconnected supply for the South West Region	221
8.2.1 Topography and Designated Sites	222
8.2.2 Sustainable Abstractions	222
8.2.3 Small and Isolated Settlements	223

8.3 The Regional Preferred	223
8.3.1 Benefits of Interconnection Supplies	224
8.3.2 Cross Study Area Transfers	228
8.3.3 Cumulative Effects at Regional Level	229
8.3.4 Option Types and Component Summary	230
8.4 Summary	234
8.7 References	235
9 Ongoing Monitoring, Mitigation and Evolution	236
9.1 Introduction	237
9.2 Monitoring and Feedback	237
9.2.1 Identifying Internal and External Factors that may Impact the NWRP	240
9.2.2 Needs Identification	242
9.2.3 Feedback	242
9.3 Future Actions	243
9.4 References	243
10 Conclusions	244
10.1 Introduction	245
10.2 Baseline of the Public Water Supplies in the South West Region	245
10.3 Plan Development	246
10.4 Plan Outcome	248
10.5 Benefits of the Preferred Approach for the South West Region	248
10.5.1 Reducing Quantity Risk	248
10.5.2 Reducing Risk to Water Quality	251
10.5.3 Reliability and Sustainability	252
10.5.4 Transformation	253
10.5.5 Alignment with Policy	254
10.5.6 Alignment with Investment Planning	254
10.6 Alternatives to Plan	255
10.7 Interim Options	255
10.8 Conclusions	255
10.9 Next Steps	256
Glossary of Acronyms and Terms	257

Technical Appendices

- Appendix 1 – Study Area H Technical Report
- Appendix 2 – Study Area I Technical Report
- Appendix 3 – Study Area J Technical Report