

3rd Cycle Draft Liffey and Dublin Bay Catchment Report (HA 09)



Catchment Science & Management Unit

Environmental Protection Agency

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Preface

This document provides a summary of the water quality assessment outcomes for the Liffey and Dublin Bay Catchment, which have been compiled and assessed by the EPA, with the assistance of the Local Authority Waters Programme (LAWPRO), local authorities and RPS consultants to inform the draft 3rd Cycle River Basin Management Plan. The information presented includes status and risk categories of all waterbodies, details on protected areas, significant issues, significant pressures, source load apportionment modelling and load reduction assessments for nutrients where applicable, an overview of the 2nd Cycle Areas for Action and a list of proposed 3rd Cycle Areas for Action. These characterisation assessments are largely based on information available to the end of 2018, including the WFD Status Assessment for 2013-2018. Protected Area assessments are based on water quality information up to 2018 for Natura 2000 and Salmonid Waters; 2019 for Drinking Water; and 2020 for Nutrient Sensitive Areas and Bathing Waters.

The purpose of this draft report is to provide an overview of the situation in the catchment, draw comparison between Cycle 2 and Cycle 3, and help support the draft River Basin Management Plan 2022-2027 consultation process. Once the consultation process is completed the report will be finalised to reflect any changes and comments made as a result of the consultation process.

Water Framework Directive – key dates and terminology	
Cycle 2 – EPA Characterisation and Assessment	Characterisation and assessment to inform the Cycle 2 RBMP was largely based on 2010-2015 WFD monitoring data.
Cycle 2 Catchment Assessments	Catchment Assessments based on the Cycle 2 characterisation and assessment were published in September 2018.
2 nd Cycle River Basin Management Plan (RBMP) 2018-2021	This plan was for WFD Cycle 2 which runs from 2016-2021. This RBMP was published late, with this plan covering 2018-2021.
2 nd Cycle Areas for Action	These 189 Areas for Action were selected under the RBMP 2018-2021
Cycle 3 -EPA Characterisation and Assessment	Cycle 3 runs from 2022-2027. Assessments to inform the Cycle 3 RBMP is largely based on 2013-2018 WFD monitoring data. This is the latest WFD monitoring assessment period for which all data are available.
Cycle 3 Catchment Assessments	Catchment Assessments based on the Cycle 3 characterisation and assessment were published in August 2021.
3 rd Cycle River Basin Management Plan 2022-2027	This draft RBMP is for WFD Cycle 3 which runs from 2022-2027. Public consultation on this plan by the DHLGH and LAWPRO is taking place in late 2021 and early 2022.
3 rd Cycle Recommended Areas for Action – Protection/ Restoration/Projects	These recommended Areas for Action have been identified in the draft RBMP 2022-2027 and feedback can be given in the public consultation on this plan. They fall into 3 categories – Areas for Protection, Areas for Restoration and Catchment Projects.

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1 Introduction

This report aims to provide an overview of the water quality status, risk, key issues and significant pressures for all waterbodies in the catchment based on the Characterisation Assessment undertaken for the 3rd Cycle River Basin Management Plan. In addition, a comparative overview of the water quality in the Liffey and Dublin Bay catchment between Cycle 2 and Cycle 3 characterisation is provided along with a summary of the progress made in the 2nd Cycle Areas for Action. The recommended list for the 3rd Cycle Areas for Action is also provided.

To provide context, the Liffey and Dublin Bay includes the area drained by the River Liffey and by all streams entering tidal water between Sea Mount and Sorrento Point, Co. Dublin, draining a total area of 1,616km². (Figure 1). The largest urban centre in the catchment is Dublin City. The other main urban centres are Dun Laoghaire, Lucan, Clonee, Dunboyne, Leixlip, Maynooth, Kilcock, Celbridge, Newcastle, Rathcoole, Clane, Kill, Sallins, Johnstown, Naas, Newbridge, Athgarvan, Kilcullen and Blessington. The total population of the catchment is approximately 1,255,000. The Liffey catchment contains the largest population of any catchment in Ireland and is characterised by a sparsely populated, upland south eastern area underlain by granites and a densely populated, flat, low lying limestone area over the remainder of the catchment basin.

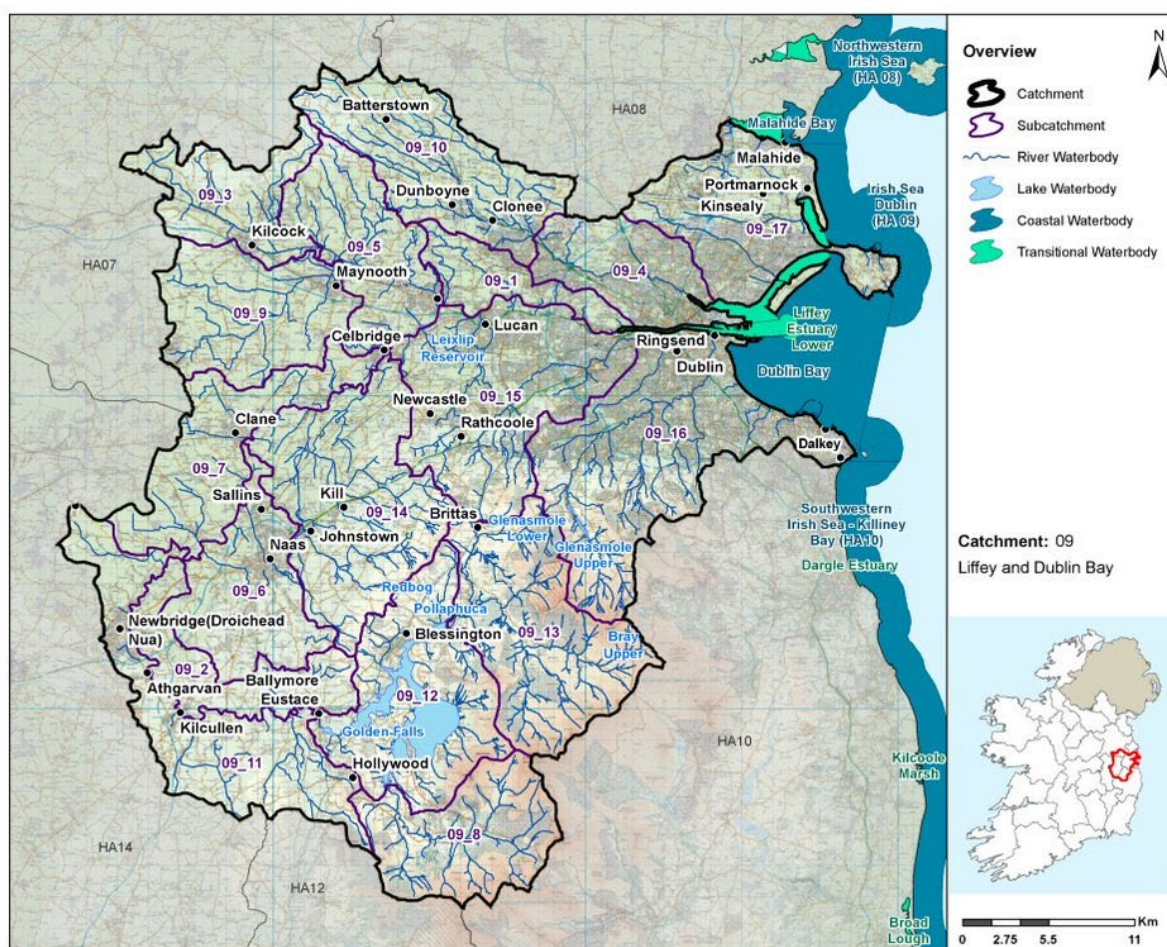


Figure 1: Overview of subcatchments in the Liffey and Dublin Bay catchment

The Liffey and Dublin Bay catchment is divided into 17 subcatchments (Figure 1) with 81 river waterbodies¹, 6 lake waterbodies, 6 transitional waterbodies, 5 coastal waterbodies and 29 groundwater bodies (Figure 2).

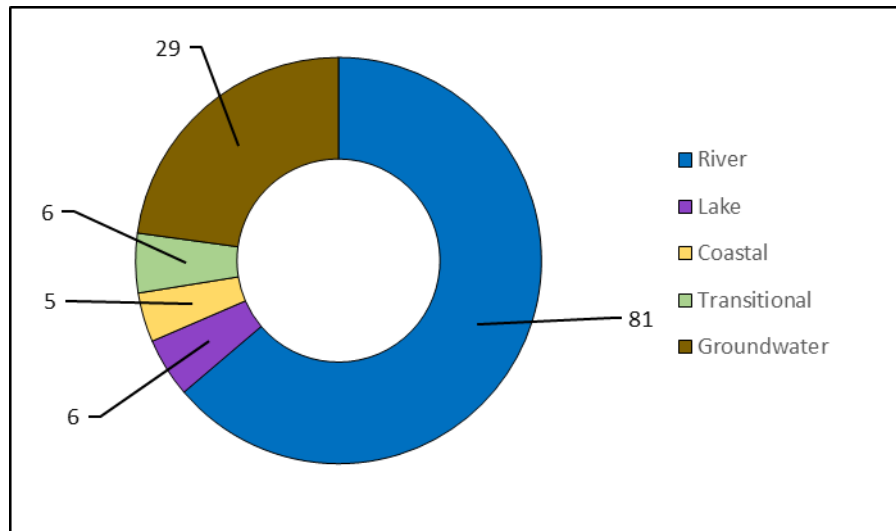


Figure 2: Waterbody types and numbers in the Liffey and Dublin Bay Catchment.

2 Waterbody Overview

2.1 Waterbody Status

- ◆ This assessment to inform the 3rd Cycle RBMP is largely based on WFD monitoring data for the period 2013-2018, which is the latest WFD monitoring assessment period for which all data are available.
- ◆ For this assessment to inform Cycle 3, there are 2 waterbodies achieving High Status, 56 achieving Good Status, 23 achieving Moderate Status and 24 achieving Poor Status. There are 22 waterbodies that do not have status assigned for Cycle 3. All waterbodies must achieve at least Good Ecological status.
- ◆ There are 2 river waterbodies that must achieve High Ecological Status (HES) in this catchment and there are 2 coastal waterbodies that must achieve High Ecological Status (HES). These waterbodies are listed in Appendix 1. Of the 4 HES Environmental Objective waterbodies, 2 waterbodies are achieving High Status (coastal) while 2 waterbodies are at Good Status (rivers).
- ◆ There has been an increase of 1 waterbody (Northwestern Irish Sea (HA 08)) achieving High Status and 4 waterbodies achieving Good Status between Cycle 2 and Cycle 3. There are no waterbodies achieving Bad Status. Tolka_030 was Bad in Cycle 2 but improved to Poor in Cycle 3. There is a decrease in 4 waterbodies (lake and transitional) achieving Moderate Status and an increase of 1 waterbody achieving Poor Status. (Figure 3 & Table 1).

¹ Of these 81 river waterbodies, 4 are artificial waterbodies (AWB).

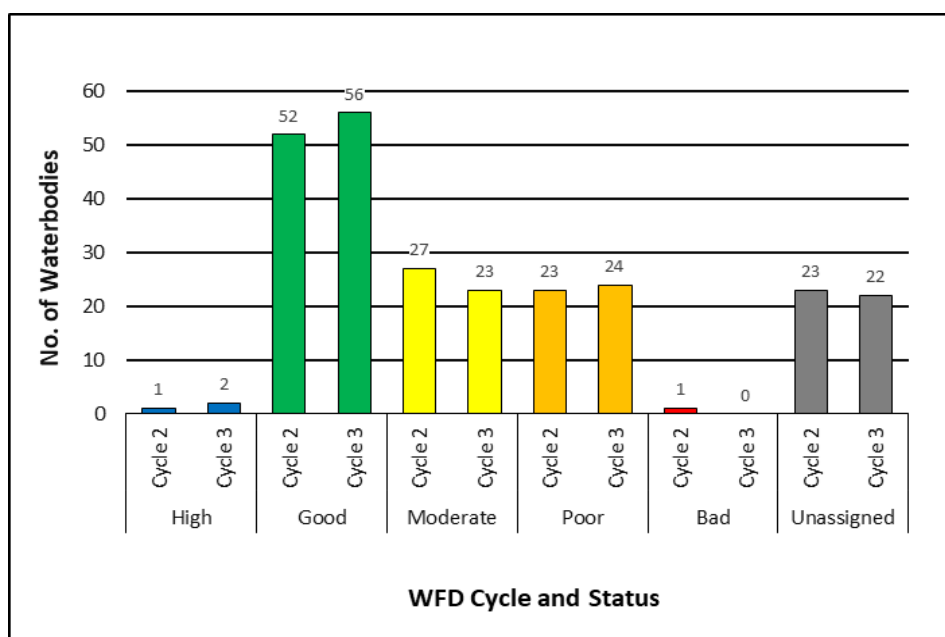


Figure 3: Waterbody Status Breakdown (All waterbodies)

Table 1: Waterbody Status Breakdown Table (All Waterbodies)

2013-2018 Status	River		Lake		Transitional		Coastal		Groundwater		Total	
	Cycle 2	Cycle 3	Cycle 2	Cycle 3	Cycle 2	Cycle 3	Cycle 2	Cycle 3	Cycle 2	Cycle 3	Cycle 2	Cycle 3
High	0	0	0	0	0	0	1	2	0	0	1	2
Good	23	24	2	3	0	2	2	2	25	25	52	56
Moderate	21	21	1	0	4	1	1	1	0	0	27	23
Poor	19	19	0	0	0	1	0	0	4	4	23	24
Bad	1	0	0	0	0	0	0	0	0	0	1	0
Unassigned	17	17	3	3	2	2	1	0	0	0	23	22
Total	81	81	6	6	6	6	5	5	29	29	127	127

- ◆ Figure 4 illustrates the change in status between Cycle 2 (assessment based largely on 2010-2015 WFD Monitoring data) and Cycle 3 (assessment largely based on 2013-2018 WFD monitoring data).
- ◆ Over this period 14 (14%) waterbodies have improved in status, 80 (78%) waterbodies have remained unchanged and 9 (9%) waterbodies have declined in status.²
- ◆ There is an overall improvement in the status of 5 waterbodies across the catchment since the Cycle 2 assessment.

² Unassigned waterbodies have not been considered in this Status class change assessment and therefore are not represented in Figure 4. Percentage displayed in the Figure 4 are in relation to the total number of waterbodies with status assigned in both cycles, as opposed to total number of all waterbodies.

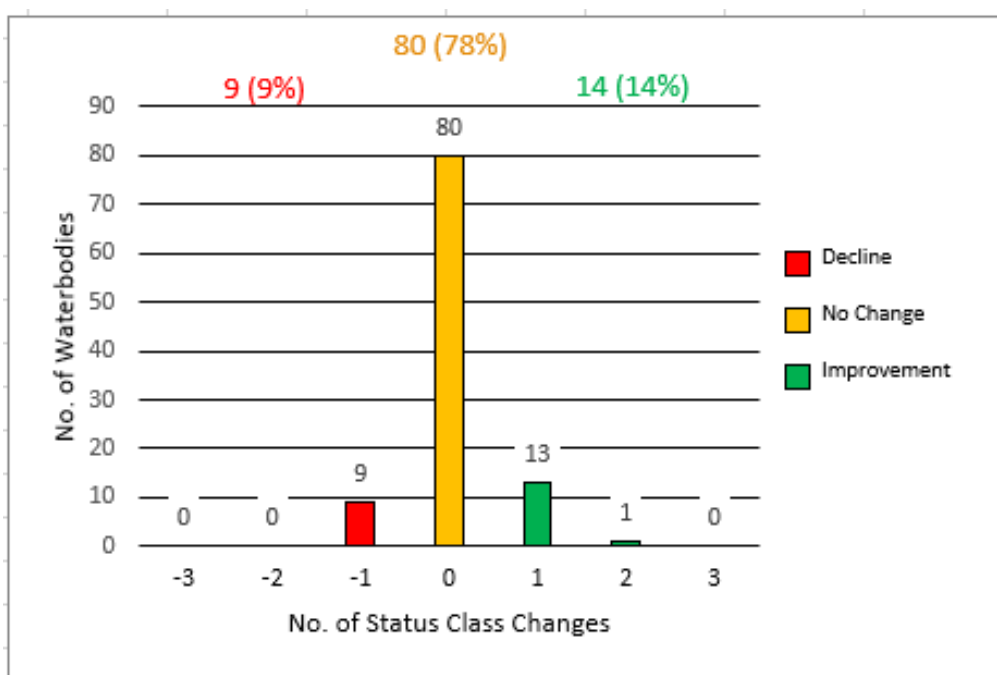


Figure 4: Status Class Changes between Cycle 2 and Cycle 3

2.2 Protected Areas

2.2.1 Drinking Water

- ◆ There are 3 surface waterbodies in the catchment identified as Drinking Water Protected Areas (DWPA) based on water abstraction data on the abstraction register and from other sources in 2018. All groundwater bodies nationally are identified as DWPA. DWPA layers can be viewed at <https://gis.epa.ie/EPAMaps/Water> - see *Protected Areas - Drinking Water*.
- ◆ All Drinking Water bodies in the catchment met the DWPA objective in 2019
- ◆ For more detailed information please see the EPA reports on drinking water quality in 2019 for [Public Supplies](#)³ and [Private Supplies](#)⁴.

2.2.2 Bathing Waters

- ◆ There are 8 bathing waters in or directly adjacent to the catchment identified under the Bathing Water Regulations 2008.
- ◆ For more detailed information please see the EPA report on [bathing water quality in 2020](#)⁵.

2.2.3 Shellfish Areas

- ◆ There are 2 designated shellfish areas in the catchment.

³<https://www.epa.ie/publications/compliance--enforcement/drinking-water/annual-drinking-water-reports/drinking-water-quality-in-public-supplies-2019.php>

⁴<https://www.epa.ie/publications/compliance--enforcement/drinking-water/annual-drinking-water-reports/focus-on-private-water-supplies-2019.php>

⁵<https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/bathing-water-quality-in-ireland-2020-.php>

- ◆ The Marine Institute assessed the average dissolved concentrations for metals in shellfish waters for the period 2016-2019 and the microbial quality in shellfish flesh for 2018. This assessment was used to determine if the WFD protected area objective for shellfish areas was met.
- ◆ Details on the shellfish area and its associated waterbody is summarised in Table 2.

Table 2: Designated shellfish areas in the catchment

Shellfish area		Water body intersection		Objective met?	
Name	Code	Name	Code	Yes	No
Malahide	IEPA2_0057	Irish Sea Dublin (HA 09)	IE_EA_070_0000	✓	
		North-western Irish Sea (HA08)	IE_EA_020_0000	✓	

The locations of Protected Areas associated with Public Health (Drinking Water, Bathing Water and Shellfish Areas, where applicable) are illustrated in Figure 5 below.

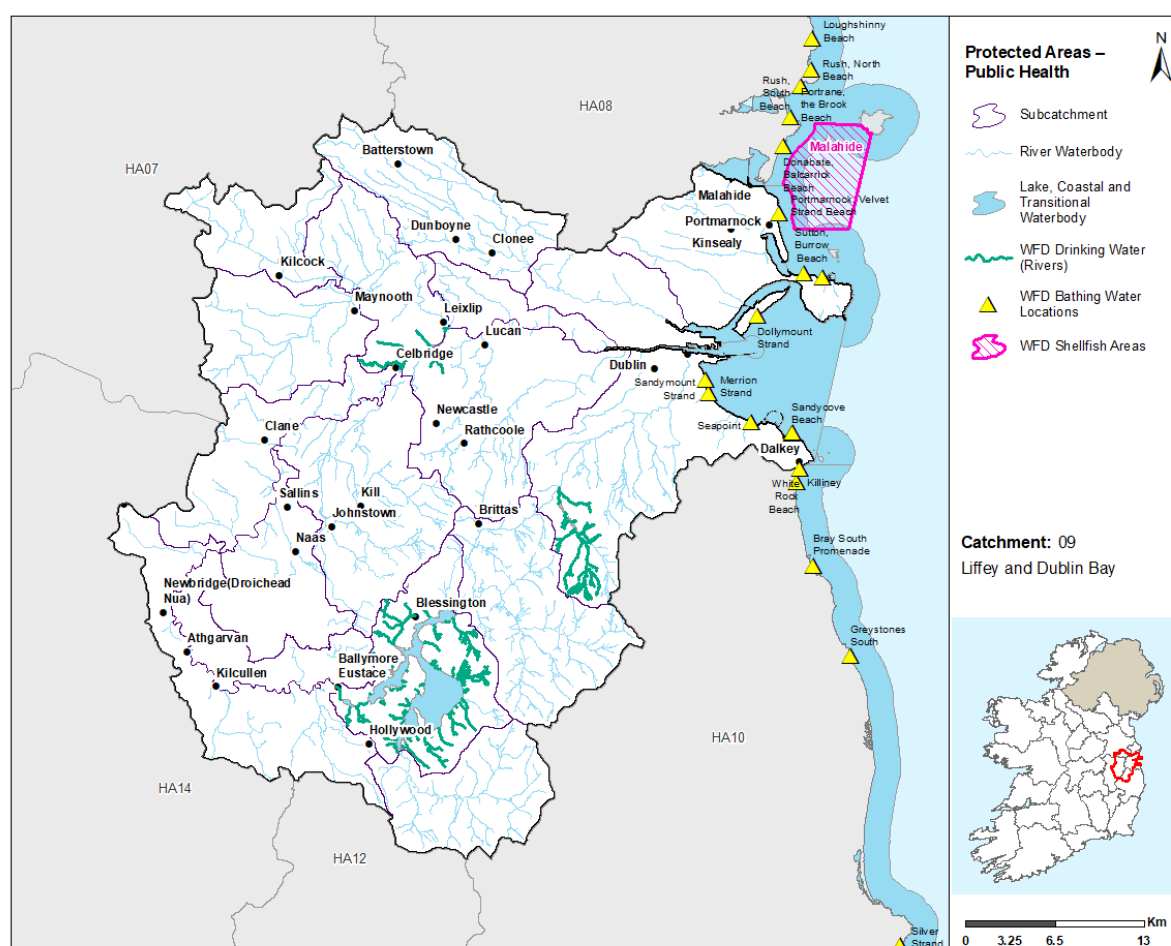


Figure 5: Protected Areas – Public Health

2.2.4 Natura 2000 Sites

- ◆ Many of the habitats and species listed for protection in the Birds and Habitats Directives are water dependent. The Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) with water dependent habitats or species in this catchment are presented in Figure 6, along with

waterbodies designated as salmonid waters (S.I. No. 293 of 1988) and waterbodies with Fresh Water Pearl Mussel habitat, where identified.

- ◆ There are 11 SACs in this catchment, all of which have water dependent habitats or species. The waterbodies within these SACs were assessed for associated water dependent habitats and species and if they met the supporting requirements for habitats and species using their 2013-2018 WFD status. For the purposes of the assessment, it was assumed that Good ecological status is adequate to meet the supporting conditions of all habitats and species with the exception of the Freshwater Pearl Mussel, which has additional requirements for supporting conditions set out in the Freshwater Pearl Mussel Regulations (S.I. No 296 of 2009) for macroinvertebrates, filamentous algae, phytobenthos, macrophytes and siltation.
- ◆ Specific water supporting conditions have not been identified for the dependent bird species in the SPAs and so waterbodies associated with SPAs are not included in this assessment.

Results of the overall assessment for this catchment are outlined in

Table 3 below, information at a waterbody level can be viewed at [Catchments.ie](https://www.catchments.ie).⁶

Table 3: Natura 2000 Network Assessment Summary

Water Body Type	Total No.	Meeting the Requirements	Did not meet the Requirements	Unknown*
Rivers	14	8	6	0
Transitional & Coastal	4	4	0	0

**As the waterbody status was unassigned.*

- ◆ There are no river waterbodies with FWPM habitats in the catchment.
- ◆ There are 2 groundwater bodies delineated and assessed as Groundwater Dependent Terrestrial Ecosystems for this catchment, both associated groundwater bodies (IE_EA_G_085 & IE_SE_G_106) were at Good Status.
- ◆ Water dependent SACs/ SPAs in the catchment are illustrated in Figure 6.

⁶<https://www.catchments.ie/download/catchments-assessments-protected-areas-supporting-documents/>

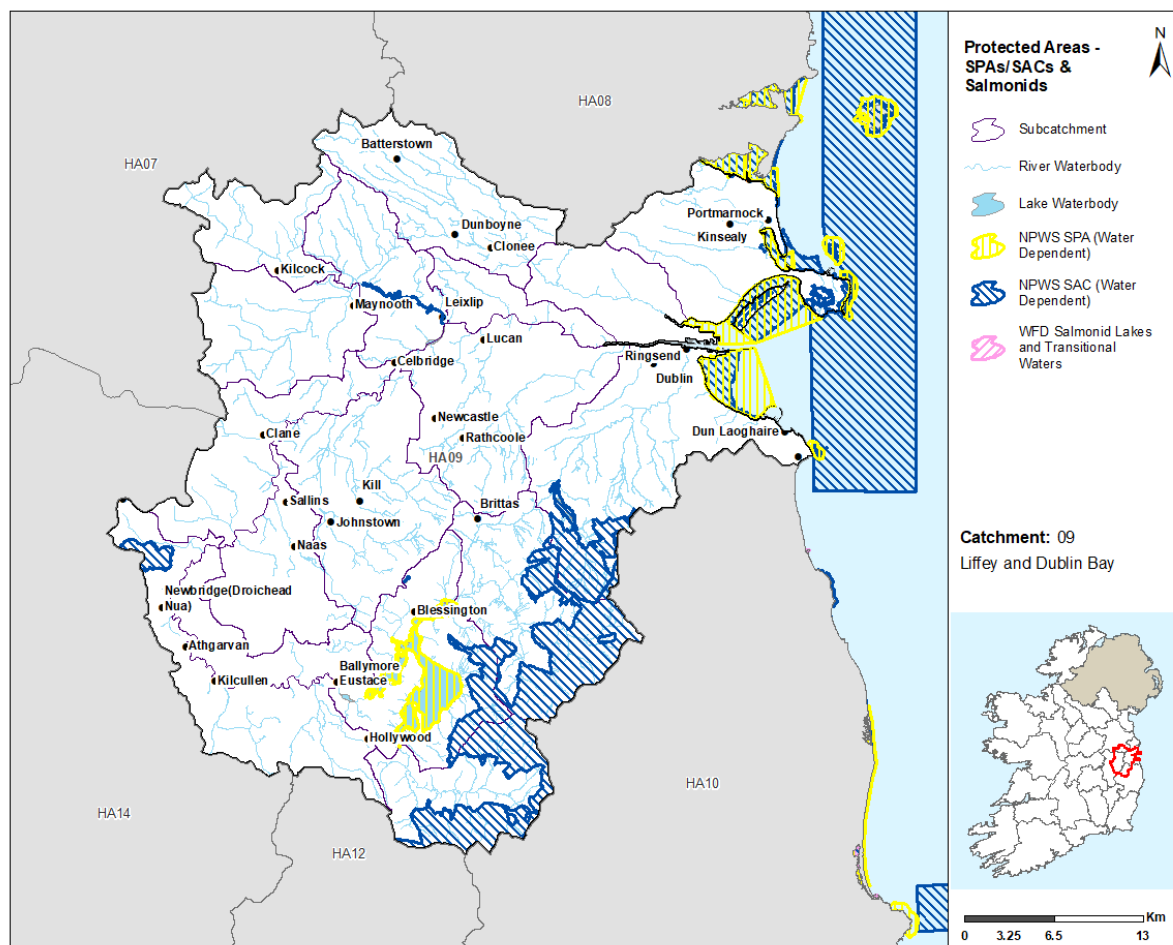


Figure 6: Water Dependent SPAs / SACs

2.2.5 Nutrient Sensitive Areas

- ◆ The EPA carried out a review of nutrient sensitive areas downstream of large urban waste water discharges in 2020. Once the regulations are in place, and nutrient sensitive areas have been identified, additional nutrient removal must be applied (if not already applied) to waste water treatment plants discharging to the sensitive area. If this treatment was in place the objective was deemed to have been met.
- ◆ There are 6 NSAs in the catchment and these are downstream of 5 urban wastewater agglomerations. The list of NSAs, associated agglomerations and intersecting water bodies are provided in Table 4.
- ◆ NSA objectives are being met in 4 of the 6 NSAs in the catchment.

Table 4: Nutrient sensitive areas in the catchment

Nutrient Sensitive Area	Agglomeration		Water body		Objective met?		Comment
	Name	Code	Name	Code	Yes	No	
Liffey River (100-150)	Upper Liffey Valley Osberstown	D0002-01	Liffey_100	IE_EA_09L011200	✓		Tertiary Treatment in place
			Liffey_110	IE_EA_09L011300			
			Liffey_120	IE_EA_09L011500			
			Liffey_130	IE_EA_09L011600			
			Liffey_140	IE_EA_09L011700			
			Liffey_150	IE_EA_09L011900			
Leixlip Reservoir	Upper Liffey Valley Osberstown	D0002-01	Leixlip Reservoir	IE_EA_09_69	✓		Tertiary Treatment in place
Liffey River (160-180)	Lower Liffey Valley Leixlip	D0004-02	Liffey_160	IE_EA_09L012040	✓		Tertiary Treatment in place
			Liffey_170	IE_EA_09L012100			
			Liffey_180	IE_EA_09L012350			
Liffey Estuary (Upper & Lower), Tolka Estuary and South Bull Lagoon	Ringsend	D0034-01	Liffey Estuary Upper	IE_EA_090_0400		✓	Secondary Treatment in Place
			Liffey Estuary Lower	IE_EA_090_0300			
			Tolka Estuary	IE_EA_090_0200			
Slaney Estuary Upper & Lower and Wexford Harbour	Enniscorthy	D0029-01	Upper Slaney Estuary	IE_SE_040_0300		✓	Secondary Treatment in Place
			Lower Slaney Estuary	IE_SE_040_0200			
			Wexford Harbour	IE_SE_040_0000			
Wexford Harbour	Wexford Town	D0030-01	Wexford Harbour	IE_SE_040_0000	✓		Tertiary Treatment in place

2.3 Heavily Modified Waterbodies

- ◆ Based on the 1st and 2nd RBMPs there are currently 8 designated heavily modified water bodies (HMWB) in the catchment: Santry_020 due to flood protection; Glenasmole Lower and Glenasmole Upper due to drinking water supply; Golden Falls due to power generation; Leixlip Reservoir and Pollaphuca due to both power generation and drinking water supply; Broadmeadow Water due to public transport infrastructure; and Liffey Estuary Lower due to port facilities. Glenasmole Reservoir Lower and Upper were classified as still having Good Ecological Potential in 2013-18. Pollaphuca and Liffey Estuary Lower improved from Moderate to Good Ecological Potential since Cycle 2 characterisation. Broadmeadow Water has declined from Moderate Ecological Potential to Poor in the same period. Ecological Potential of Santry_020, Golden Falls

and Leixlip Reservoir remains unassigned. There will be a consultation period on HMWBs for the 3rd Cycle RBMP and this will be completed for inclusion in the 3rd Cycle Final RBMP.

2.4 Artificial Waterbodies

- ◆ There are 4 artificial water bodies (AWB) in the catchment - Grand Canal Basin (Liffey and Dublin Bay), Grand Canal Main Line (Liffey and Dublin Bay), Grand Canal Naas Line (Liffey and Dublin Bay) and the Royal Canal Main Line (Liffey and Dublin Bay).
- ◆ All 4 of the artificial waterbodies are currently at Good Status, except for the Grand Canal Basin (Liffey and Dublin Bay) which is at Moderate Status.

3 Waterbody Risk

3.1 Overview of Risk

- ◆ A waterbody that is *At Risk* means that either the waterbody is currently not achieving its Water Framework Directive (WFD) environmental objective of Good or High Ecological Status or that there is an upward trend in nutrients or ammonia and if this trend continues the waterbody Status will decline by the end of Cycle 3 and will fail to meet its environmental objective.
- ◆ A waterbody can be considered as *Review* for the following three reasons:
 - The waterbody does not have status assigned to it yet, it is referred to as an unassigned waterbody, and therefore there is not enough evidence to determine if it is *At Risk* or *Not At Risk*.
 - The waterbody has shown some slight evidence or improvement, but more evidence is needed before it can be considered as *Not At Risk*.
 - Measures are planned or have already been implemented for the waterbody and no further measures should be applied until there is enough time to assess if these measures are working.
- ◆ A waterbody is *Not At Risk* when it is achieving its environmental objective of either High or Good Status and that there is no evidence indicating that there is a trend towards status decline.
- ◆ In total there are 127 waterbodies in the Liffey and Dublin Bay Catchment and 56 (44%) are *At Risk*, 30 (24%) in *Review* and 41 (32%) are *Not At Risk*.

3.2 Surface Waters

- ◆ For the 81 river waterbodies in the catchment, 44 (54%) are *At Risk*, 20 (25%) are in *Review* and 17 (21%) are *Not at Risk*.
- ◆ For the 6 lake waterbodies in the catchment, 1 (17%) is *At Risk*, 2 (33%) are in *Review* and 3 (50%) are *Not at Risk*.
- ◆ For the 6 transitional waterbodies in the catchment, 2 (33%) are *At Risk* and 4 (67%) are in *Review*.
- ◆ For the 5 coastal waterbodies in the catchment, 1 (20%) is *At Risk* and 4 (80%) are *Not at Risk*.

- ◆ The largest proportion of *At Risk* waterbodies are found in river waterbodies, accounting for 44 (79%) of 56 *At Risk* waterbodies. Figure 7 gives an overview of the breakdown of risk across waterbody types for both Cycle 2 and Cycle 3.
- ◆ Overall there is a decrease in 3 *At Risk* waterbodies and 4 *Review* waterbodies, and an increase of 11 *Not At Risk* waterbodies between Cycle 2 and Cycle 3.

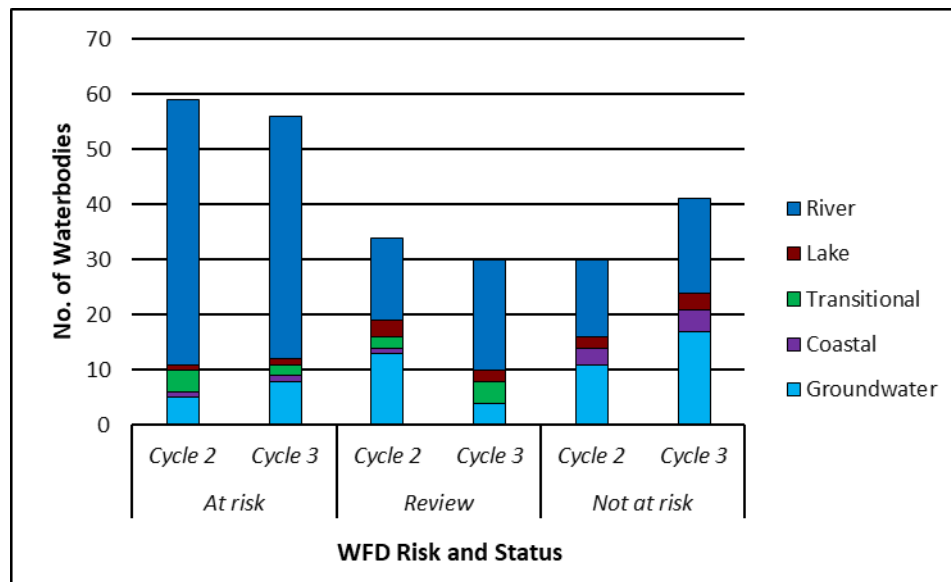


Figure 7: Number of waterbodies in each risk category

- ◆ The location of the *At Risk*, *Review* and *Not At Risk* surface waterbodies for Cycle 3 are shown in Figure 8 while the surface waterbodies that have experienced a change in risk between Cycle 2 and Cycle 3 are shown in Figure 9.

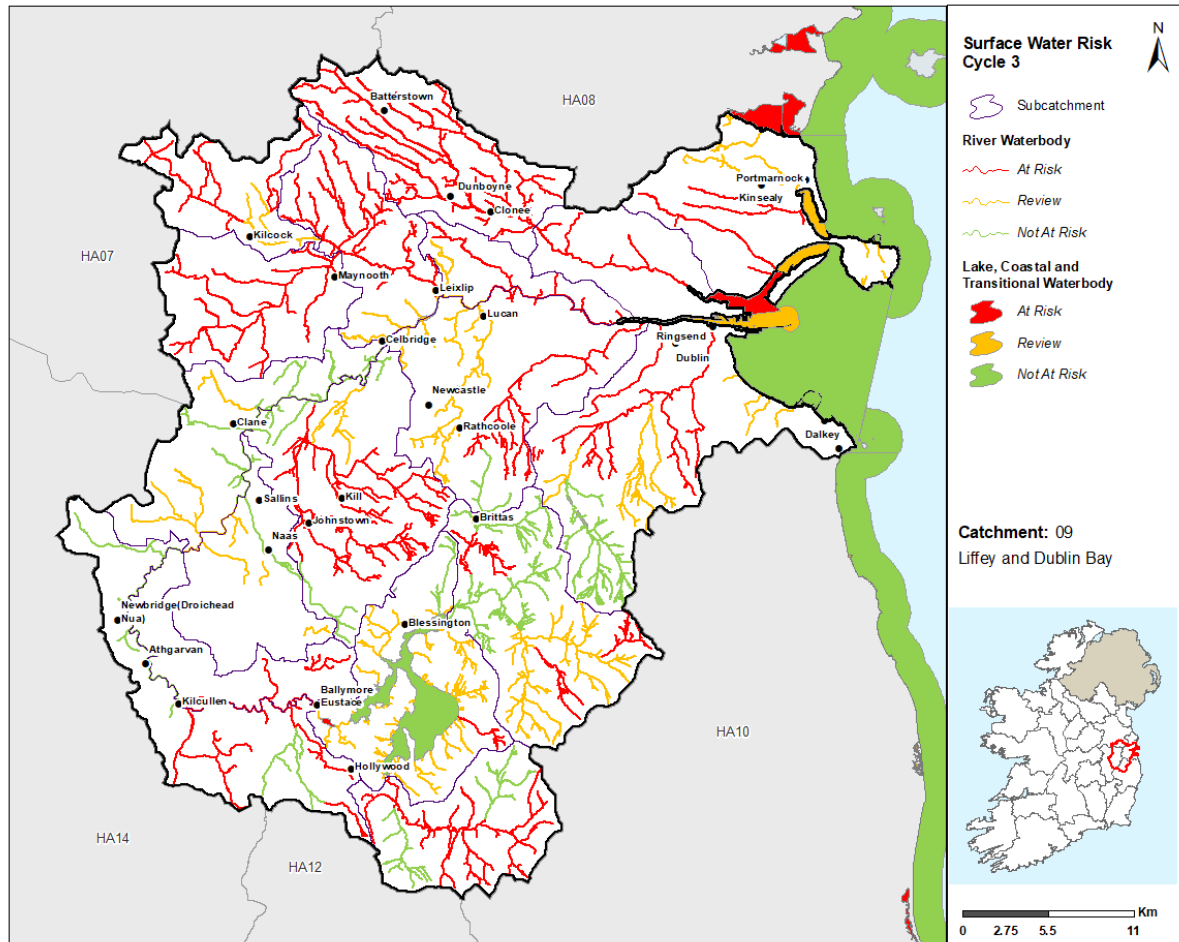


Figure 8: Surface Water Risk Cycle 3

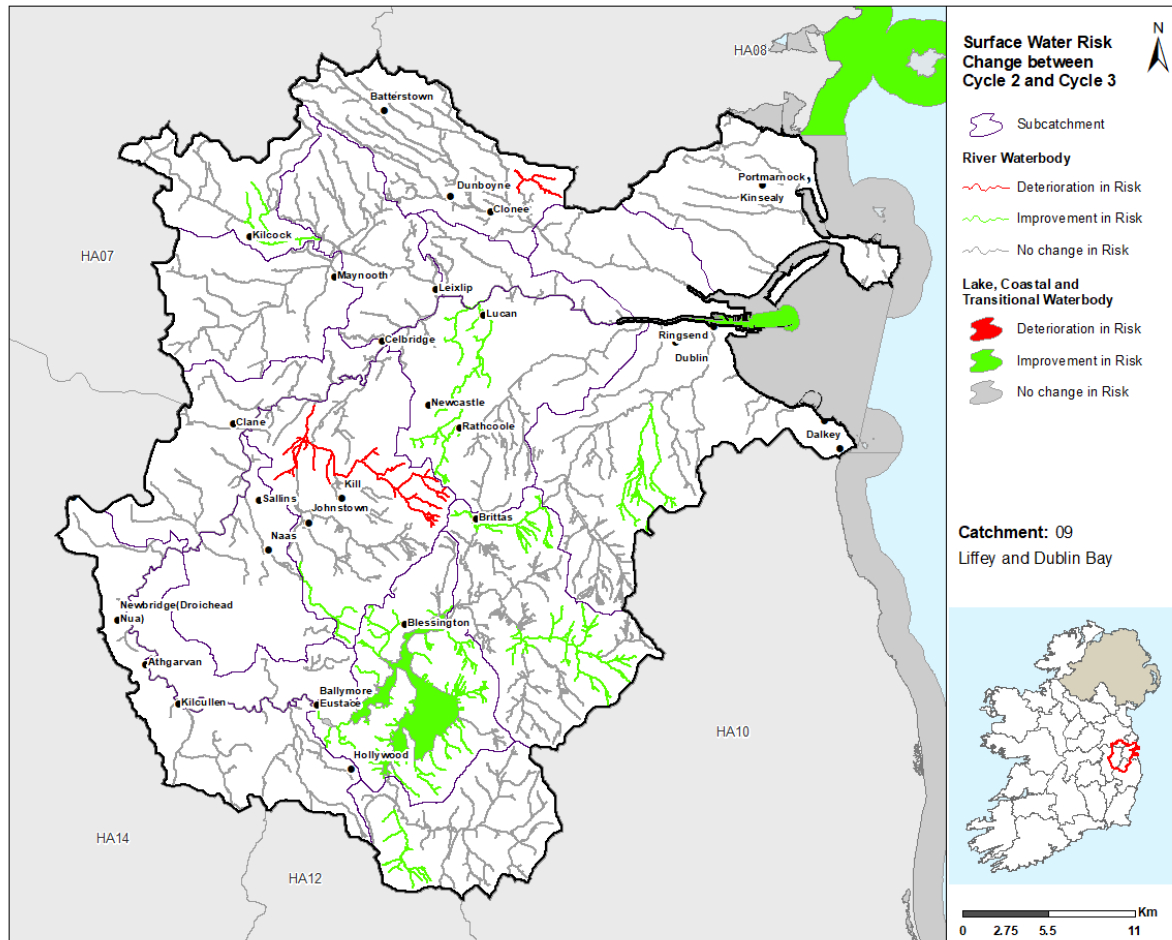


Figure 9: Surface Water Risk Change between Cycle 2 and Cycle 3

3.3 Groundwater

- ◆ For the 29 ground waterbodies in the catchment, 8 (28%) are *At Risk*, 4 (14%) are in *Review* and 17 (59%) are *Not at Risk*.
- ◆ In Cycle 2 there were 5 groundwater bodies (Trim, Industrial Facility (P0325-01), Industrial Facility (P0480-02), Waste Facility (W0014-01) and Industrial Facility (P0019-02)) *At Risk* in this catchment, 13 in *Review* and 11 *Not At Risk*.
- ◆ The location of the *At Risk*, *Review* and *Not At Risk* groundwater bodies for Cycle 3 are shown in Figure 10 while the groundwater bodies that have experienced a change in risk between Cycle 2 and 3 are shown in Figure 11.

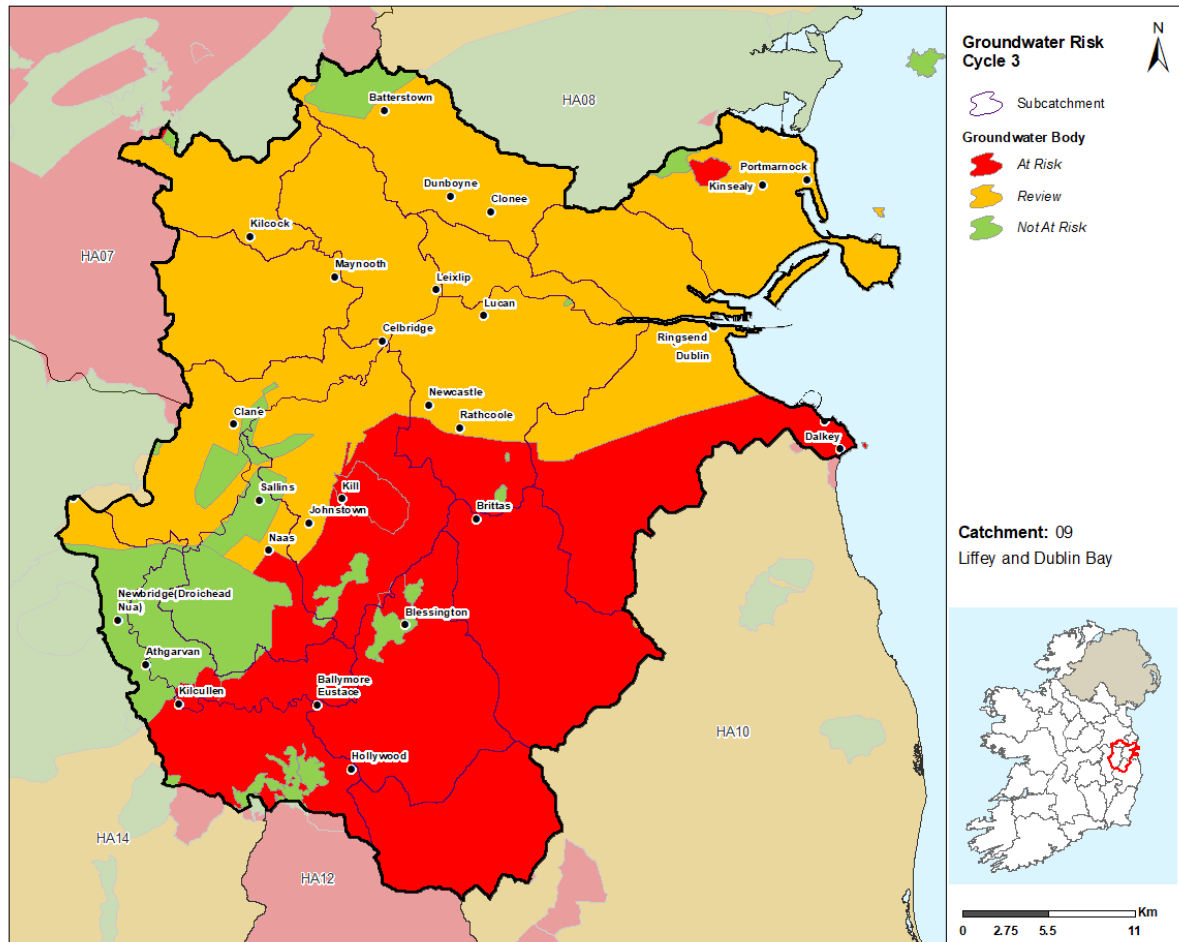


Figure 10: Cycle 3 Groundwater Body Risk

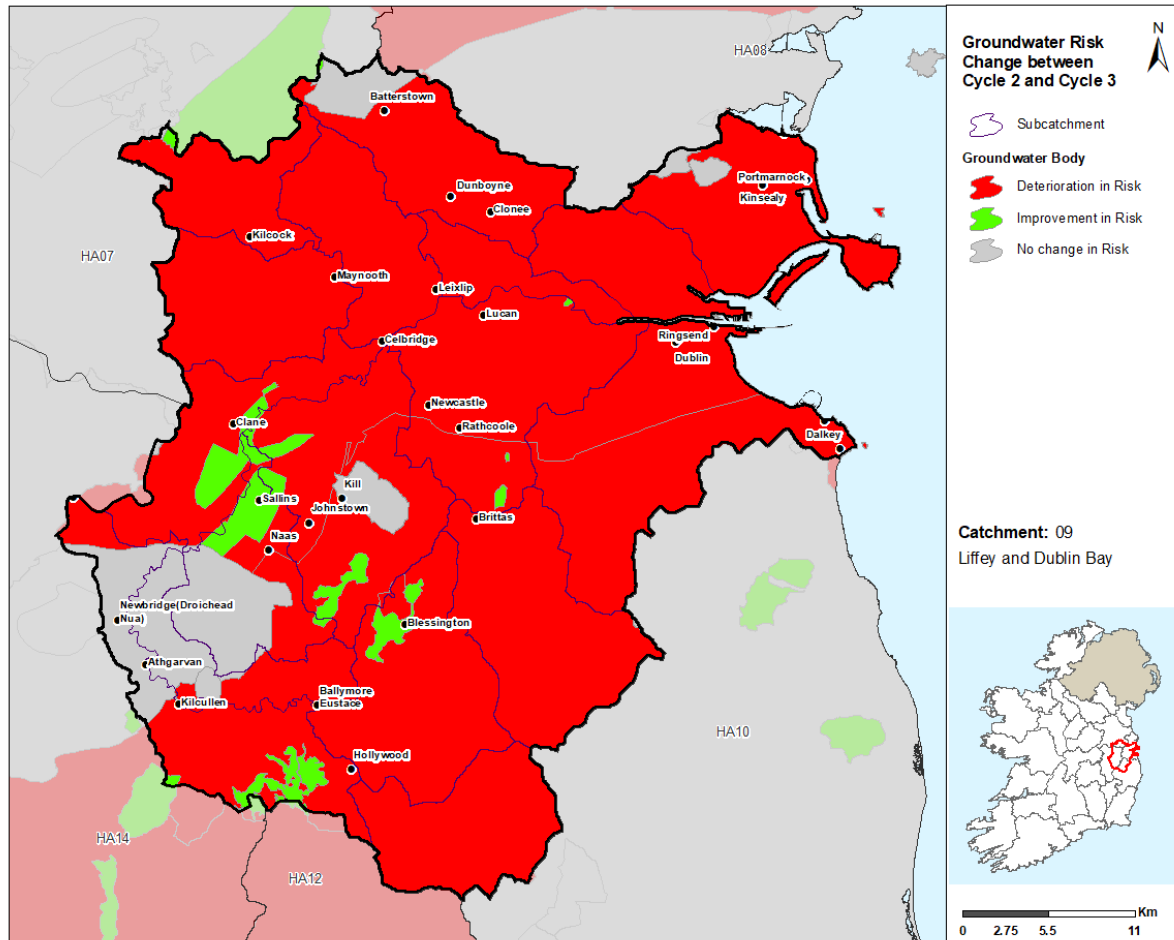


Figure 11: Groundwater Body Risk Change between Cycle 2 & Cycle 3

3.4 Heavily Modified Waterbodies

- ◆ In total there are 8 heavily modified waterbodies in the Liffey and Dublin Bay Catchment, 3 (38%) of these are currently *At Risk*, 3 are *Not At Risk* (38%) and 2 (25%) are in *Review*. Santry_020 river waterbodies, Golden Falls lake and Broadmeadow Water transitional waterbody are the waterbodies *At Risk* of not meeting their environmental objectives. There may be changes to HMWB designation once the Cycle 3 HMWB assessment has been completed and consulted on for the 3rd Cycle Final RBMP.

3.5 Artificial Waterbodies

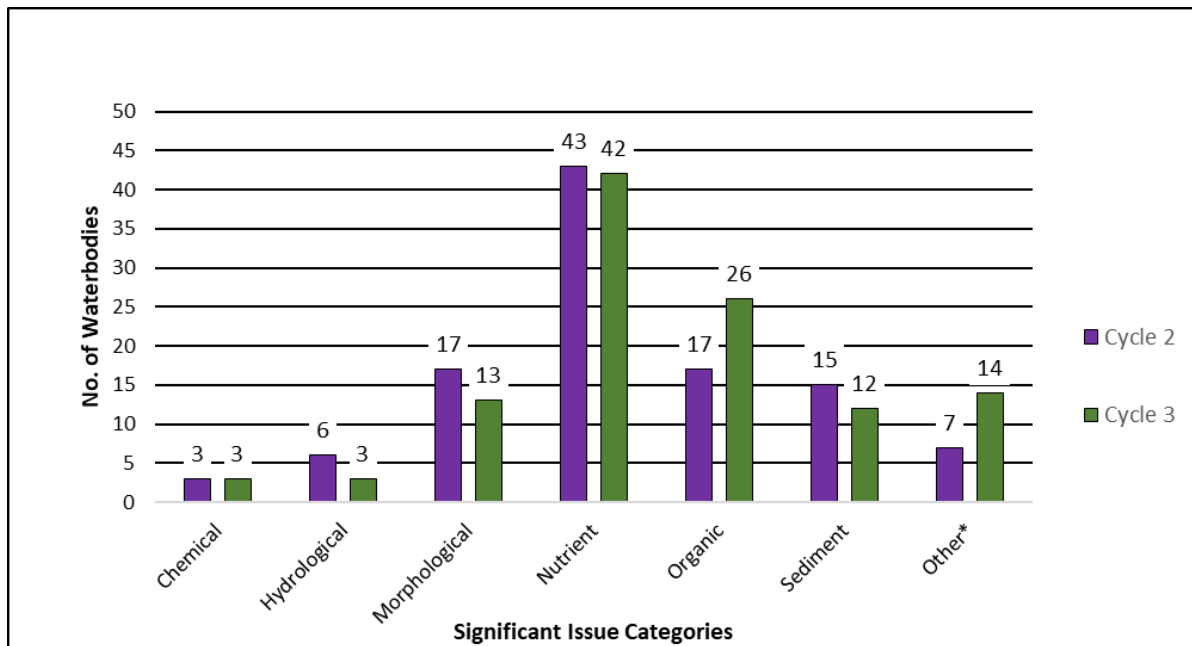
- ◆ In total there are 4 artificial waterbodies in the Liffey and Dublin Bay Catchment, 2 (50%) of these are currently *At Risk*, 1 (25%) is in *Review* and 1 is *Not At Risk* (25%).
- ◆ The Grand Canal Basin (Liffey and Dublin Bay) and Grand Canal Naas Line (Liffey and Dublin Bay) are *At Risk*.

4 Significant Issues in *At Risk* Waterbodies

4.1 All Waterbodies

- ◆ Excess nutrients remain the most prevalent issue in the Liffey and Dublin Bay catchment (Figure 12) impacting 42 waterbodies in Cycle 3. Organic pollution impacts have increased and are impacting 26 waterbodies. Morphology is impacting 13 waterbodies, sediment is impacting 12 waterbodies, other issues⁷ are impacting 14 waterbodies and hydrological issues and chemical pollution are each impacting 3 waterbodies.
 - For river waterbodies, the main significant issues are nutrient pollution (34), organic pollution (24), morphological impacts (13), sediment (11), other (7) and hydrological impacts (2).
 - For artificial waterbodies, the main significant issues are nutrient (1) and organic pollution (1).
 - For lake waterbodies, the main significant issues are nutrient pollution (1) and hydrological impacts (1).
 - For transitional waterbodies, the main significant issues are nutrient pollution (2) and organic pollution (1).
 - For groundwater bodies, the main significant issues are nutrient pollution (4), chemical pollution (3), other impacts (2) and sediment (1).
 - For coastal waterbodies, the main significant issues are nutrient pollution (1) and organic pollution (1).
- ◆ Between Cycle 2 and Cycle 3 the number of waterbodies with nutrients issues have decreased by 1 from 43 to 42 and the number of waterbodies impacted by organic pollution has increased by 9 from 17 to 26.
- ◆ The number of waterbodies impacted by sediment has decreased from 15 in Cycle 2 to 12 in Cycle 3 and the number of waterbodies impacted by morphological issues has decreased from 17 in Cycle 2 to 13 in Cycle 3.
- ◆ The number of waterbodies impacted by other impacts has increased from 7 in Cycle 2 to 14 in Cycle 3 and the number of waterbodies impacted by hydrological has decreased from 6 in Cycle 2 to 3 in Cycle 3.
- ◆ The number of waterbodies impacted by chemical pollution has remain unchanged since Cycle 2.

⁷ Other - Acidification, saline intrusion, elevated temperature, litter, microbiological pollution and unknown impacts have all been grouped into the “Other” issues category for the purpose of this report

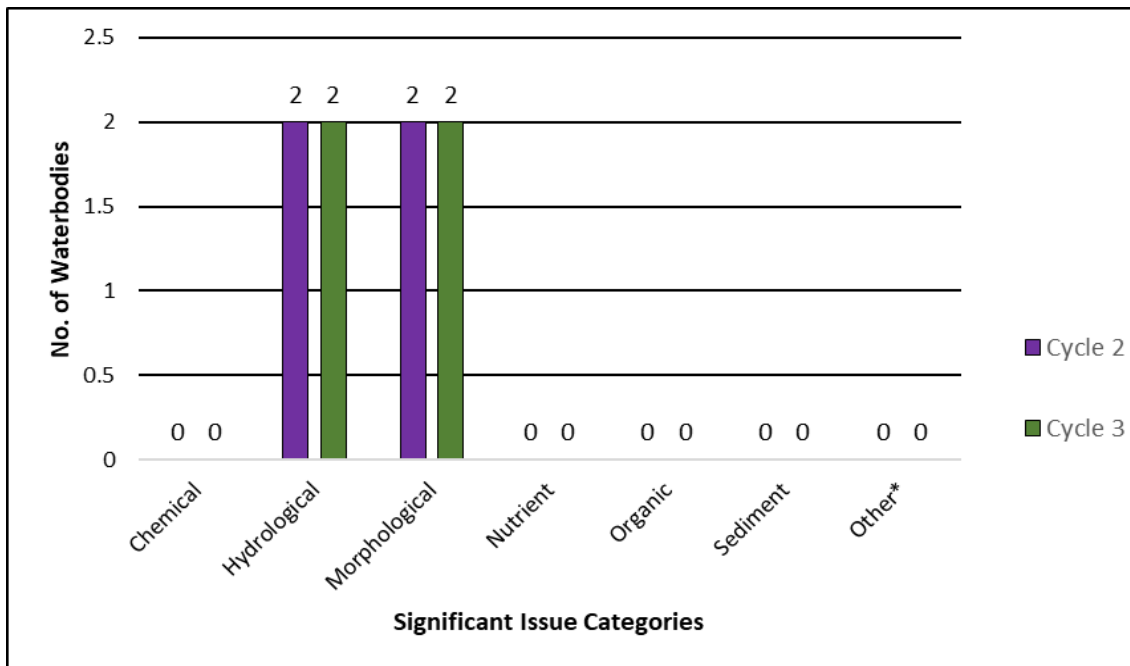


*Other - Acidification, saline intrusion, elevated temperature, litter, microbiological pollution and unknown impacts have all been grouped into the "Other" issues category for the purpose of this report

Figure 12: Significant Issues across all *At Risk* WBs between Cycle 2 and Cycle 3

4.2 High Status Objective Waterbodies

- ◆ In Cycle 3 for High Status Objective waterbodies, morphological issues are impacting 2 of the 4 High Status Objective waterbodies (all rivers) currently *At Risk* (Figure 13) and hydrological issues are impacting the remaining 2 waterbodies (all rivers).
 - For river waterbodies, the main significant issues are morphological impacts (2) and hydrological impacts (2).
 - For the two High Status Objective coastal waterbodies, there are no significant issues.
- ◆ Between Cycle 2 and Cycle 3 the river waterbodies with morphological and hydrological issues, have remained unchanged.



*Other - Acidification, saline intrusion, elevated temperature, litter, microbiological pollution and unknown impacts have all been grouped into the "Other" issues category for the purpose of this report

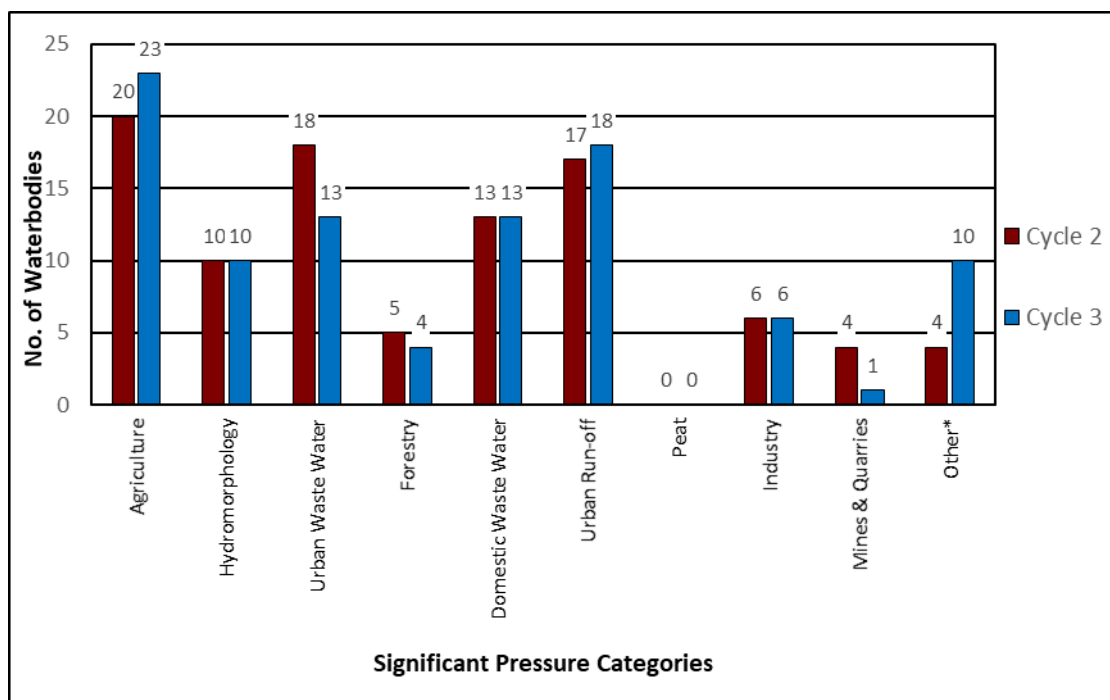
Figure 13: Significant Issues in *At Risk* High Status Objective Waterbodies

5 Significant pressures in *At Risk* Waterbodies

5.1 All Waterbodies

- ◆ Where waterbodies have been classed as *At Risk*, significant pressures have been identified.
- ◆ Figure 14 shows a breakdown of the number of *At Risk* waterbodies in each significant pressure category.
- ◆ The significant pressure affecting the greatest number of waterbodies are agriculture and urban run-off, followed by urban waste water, domestic waste water, hydromorphology, other⁸, industry and forestry.
- ◆ When comparing Cycle 2 and Cycle 3, the number of waterbodies impacted by significant pressures have remained the same in 3 categories. Although not impacting the greatest number of waterbodies, the biggest change is the decrease in the number of waterbodies impacted by urban waste water and the increase in the number of waterbodies impacted by 'other' pressures since Cycle 2.

⁸ Abstractions, aquaculture, atmospheric, anthropogenic pressures, historically polluted sites, waste, water treatment and invasive species have all been grouped into the "Other" pressure category for the purpose of this report



*Other – abstractions, aquaculture, atmospheric, anthropogenic pressures, historically polluted sites, waste, water treatment and invasive species have all been grouped into the “Other” pressure category for the purpose of this report

Figure 14: Significant Pressure (All At Risk Waterbodies)

5.1.1 Pressure Type

5.1.1.1 Agriculture

- ◆ Agriculture is a significant pressure in 20 rivers and 3 groundwater bodies (Ballyglass, Kilcullen & Trim) in Cycle 3. The issues related to farming in this catchment are predominantly due to phosphorus loss from pastures to surface waters from, for example, direct discharges; or runoff from yards, roadways or other compacted surfaces, or runoff from poorly draining soils. Sediment is a problem in 10 river waterbodies due to cattle access causing bank erosion or from stream crossings. Poorly draining soils in areas of this catchment (Sub- basin Rye Water_010) increase the relative risk of phosphorus from agriculture to surface waters. In the 3 *At Risk* groundwater bodies, nutrient pollution due to phosphorus loss and diminution of quality of associated surface waters for chemical reasons have been identified as the issues.

5.1.1.2 Diffuse Urban

- ◆ Diffuse urban pressures have been identified as a significant pressure in 18 river waterbodies. These waterbodies are almost entirely urban and are located in Dublin City and major surrounding towns. The significant impacts are a combination of nutrient and organic pollution as a result of pressures from industrial estates, quarries, stormwater overflows, unsewered buildings, misconnections, leaking sewers and runoff from paved and unpaved areas.

5.1.1.3 Domestic Waste Water

- ◆ Domestic waste water has been identified as a significant pressure in 11 river waterbodies, 1 transitional waterbody (Broadmeadow Water) and 1 groundwater body (Trim). The significant issues arise from inadequate domestic waste water systems, many of which are sited on areas of high pollution impact potential/poorly draining soils, that result in enrichment and potential for microbial/organic contamination. In the one *At Risk* groundwater body impacted by domestic wastewater, nutrient pollution due to phosphorus and damage to groundwater-dependent terrestrial ecosystems for chemical reasons have been identified as the significant issues.

5.1.1.4 Urban Waste Water

- ◆ Urban Waste Water Treatment Agglomerations have been identified as a significant pressure in 8 river waterbodies, 1 artificial waterbody, 2 transitional waterbodies (Broadmeadow Water, Tolka Estuary), 1 lake waterbody (Golden Falls) and 1 coastal waterbody (Malahide Bay). Ten waterbodies are impacted by the Ringsend agglomeration, which is due to be upgraded in 2024.

Table 5: Urban Waste Water Treatment Agglomerations identified as significant pressures in *At Risk* waterbodies in Cycle 3

Facility name	Facility Type	Waterbody	2013-18 Ecological Status	Irish Water's Expected Completion Date ⁹
Blessington D0063	Agglomeration PE of 2,001 to 10,000	Golden Falls	Unassigned	2023
Ringsend D0034	Combined Sewer Overflows	Tolka Estuary	Moderate	2024
Ringsend D0034	Combined Sewer Overflows	CAMAC_040	Poor	2024
Ringsend D0034	Combined Sewer Overflows	DODDER_050	Moderate	2024
Ringsend D0034	Combined Sewer Overflows	LIFFEY_180	Unassigned	2024
Ringsend D0034	Combined Sewer Overflows	LIFFEY_190	Moderate	2024
Ringsend D0034	Combined Sewer Overflows	SANTRY_010	Poor	2024
Ringsend D0034	Combined Sewer Overflows	SANTRY_020	Unassigned	2024
Ringsend D0034	Combined Sewer Overflows	TOLKA_050	Poor	2024
Ringsend D0034	Combined Sewer Overflows	TOLKA_060	Unassigned	2024
Malahide D0021	Agglomeration PE > 10,000	Malahide Bay	Moderate	N/A
Swords D0024	Agglomeration PE > 10,000	Broadmeadow Water	Poor	N/A
Ringsend D0034	Combined Sewer Overflows	Grand Canal Basin (Liffey and Dublin Bay)	Moderate	2024

- ◆ Urban waste water significant pressures impacted 5 less waterbodies than in Cycle 2 (a reduction from 18 to 13 waterbodies impacted). The Lower Liffey Regional Scheme (Leixlip) (D0004) Agglomeration was listed as a pressure in Cycle 2 but has been removed from the list of significant pressures in Cycle 3.
- ◆ No agglomerations have been added to the list of significant pressures in Cycle 3.

5.1.1.5 Hydromorphology

- ◆ Hydromorphology is a significant pressure in 9 river waterbodies and 1 lake waterbody (Golden Falls). 5 river water bodies are subject to extensive modification due to channelisation or flood alleviation works, while 1 river water body is mostly culverted (Camac_040). 1 river waterbody (Liffey_050) is regulated by a dam which in turn has impacted hydrological conditions. Passage barriers have been identified as a significant pressure in the Rye Water_030 and 1 river waterbody (Rathmore Stream_010) within the Liffey (09_14) subcatchment has experienced excessive levels

⁹ Based on Irish Water's Capital Investment Programme (2020-2024) as of February 2021 and may be subject to change.

of erosion driven by siltation due to lateral movement of the river channel. This issue will need to be reviewed.

5.1.1.6 Other Significant Pressures

◆ Other Anthropogenic – Golf Course

The significant issue impacting the Santry_020 is nutrient pollution from St. Annes Golf Club. Dublin City Council staff are currently monitoring to ensure no deterioration whilst awaiting upstream measures in relation to nutrient pressures. Dublin City Council already has a measure in place, with the golf club developing constructed wetlands.

◆ Waste

The licenced waste facility, Silliot Hill Landfill is the significant pressure on one groundwater (Waste Facility (W0014-01) with organic pollution identified as the issue.

◆ Unknown anthropogenic

The significant pressures impacting 4 river waterbodies (Clonshanbo_020, Dodder_050, Liffey_010, Morrel_040), 1 artificial waterbody (Grand Canal Naas Line (Liffey and Dublin Bay) and 4 groundwater bodies (Trim, Kilcullen, GWDTE-Red Bog of Kildare (SAC000397) and Ballyglass) are unknown.

5.1.1.7 Industry

- ◆ Industry has remained a significant pressure in 3 river water bodies and 3 groundwater bodies. (Table 6).

Table 6: Breakdown of Cycle 3 Industry Significant Pressures in the Liffey and Dublin Bay Catchment

Waterbody Code	Waterbody Name	Waterbody Type	Emission Type	Name	Impact
IE_EA_09C020310	CAMAC_030	River	Section 4	Belgard Quarry	Nutrient
IE_EA_09L020035	LYREEN_010	River	Section 4	N/A	Nutrient & Organic
IE_EA_09T010800	TOLKA_030	River	IE	Kepak Clonee	Nutrient & Organic
IE_EA_G_078	Industrial Facility (P0325-01)	Groundwater	IPC	Saint Gobain Building Distribution (ROI) Limited T/a PDM	Chemical & Damage to groundwater-dependent terrestrial ecosystems for chemical reasons
IE_EA_G_086	Industrial Facility (P0480-02)	Groundwater	IPC	Dublin Aerospace Limited	Chemical & Damage to groundwater-dependent terrestrial ecosystems for chemical reasons
IE_EA_G_091	Industrial Facility (P0019-02)	Groundwater	IPC	Amgen Technology (Ireland) Unlimited Company	Chemical & Damage to groundwater-dependent terrestrial ecosystems for chemical reasons

5.1.1.8 Forestry

- ◆ Forestry pressures are significant in 3 river waterbodies (Ballylow Brook_010, King's (Liffey)_010 & King's (Liffey)_020 as well as Kilcullen groundwater body in Cycle 3. The significant issues are arising primarily as a result of clearfelling which results in acidification of nearby surface waters (Ballylow Brook_010 and King's Liffey_010). Forestry pressures associated with the King's Liffey_020 are unknown. This issue will need to be reviewed. In Kilcullen groundwater body,

nutrient pollution due to phosphorus loss and diminution of quality of associated surface waters for chemical reasons have been identified as the issues associated with forestry.

Figure 15 - Figure 18 illustrates the locations of waterbodies for the 4 most common pressures in order of prevalence (agriculture, urban run-off, urban waste water and domestic waste water) within the catchment in Cycle 3.

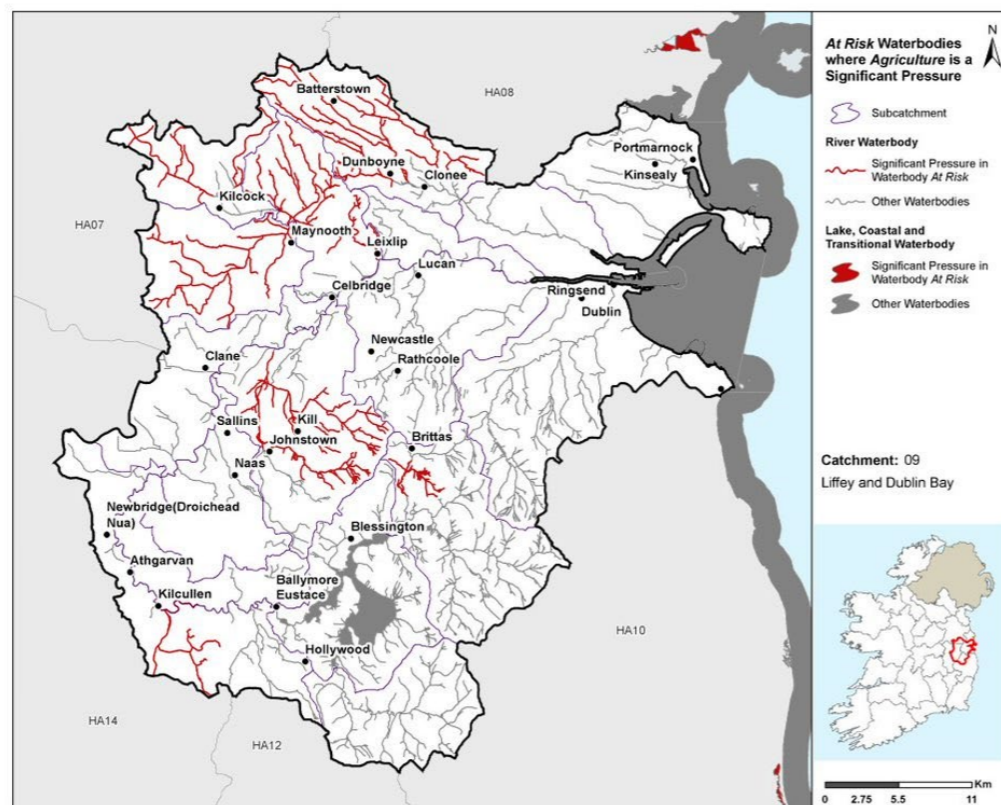


Figure 15: Locations of Waterbodies where Agriculture is a Significant Pressure

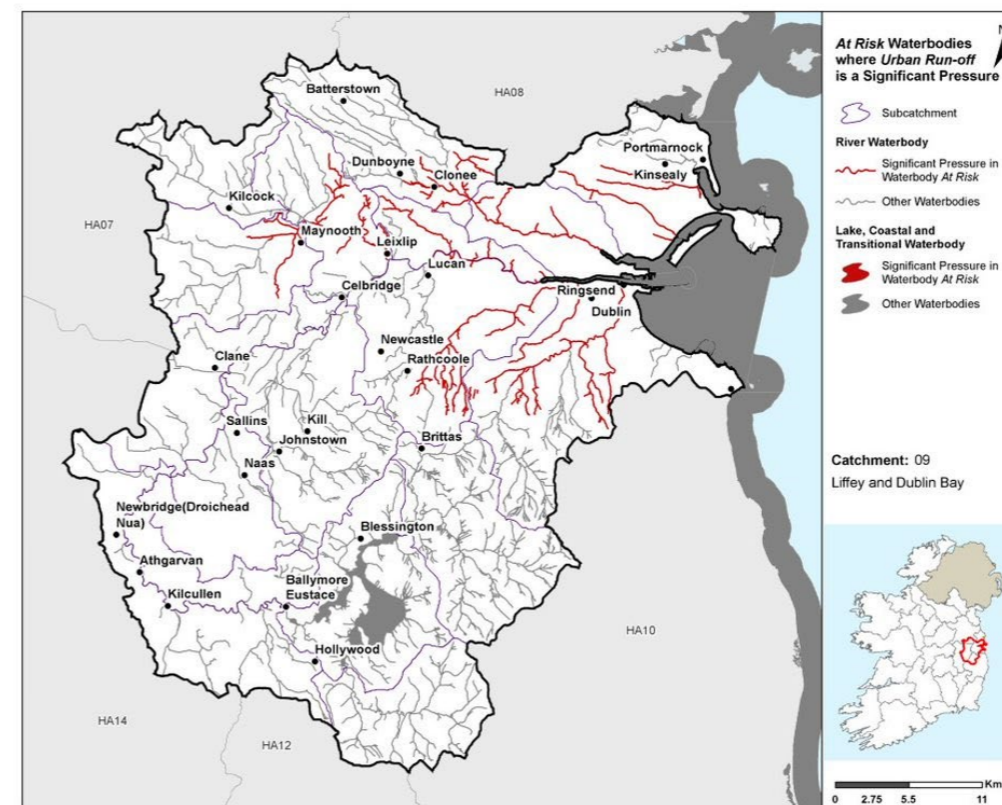


Figure 16: Locations of Waterbodies where Urban Run-off is a Significant Pressure

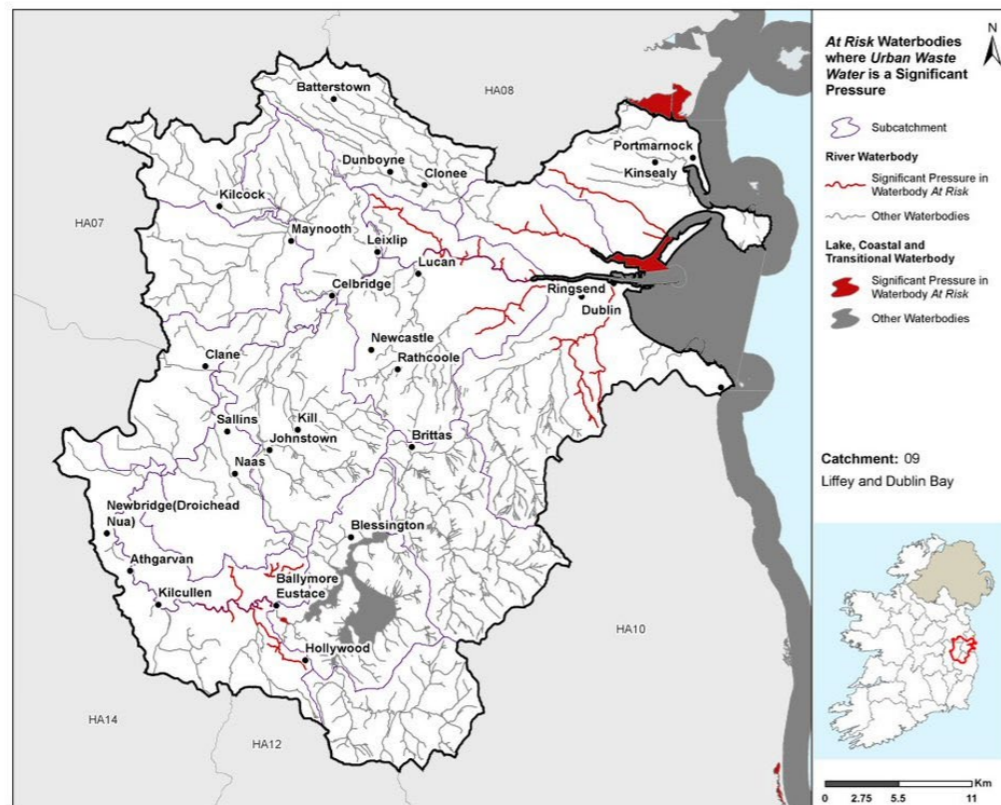


Figure 17: Locations of Waterbodies where Urban Waste Water is a Significant Pressure

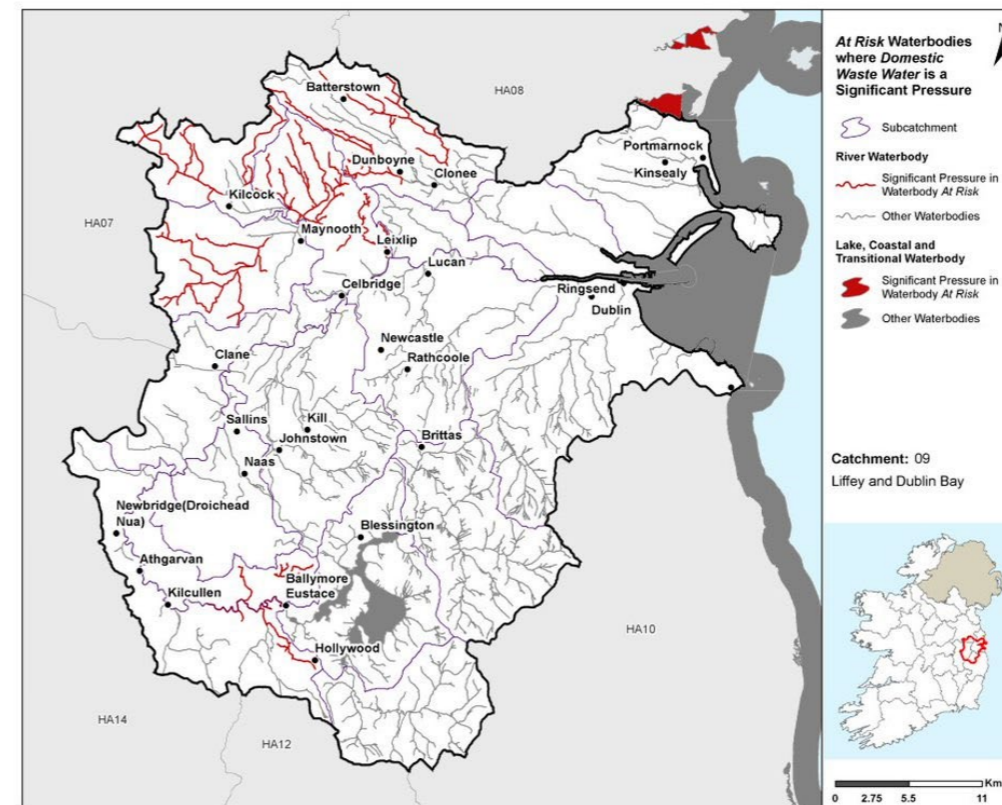
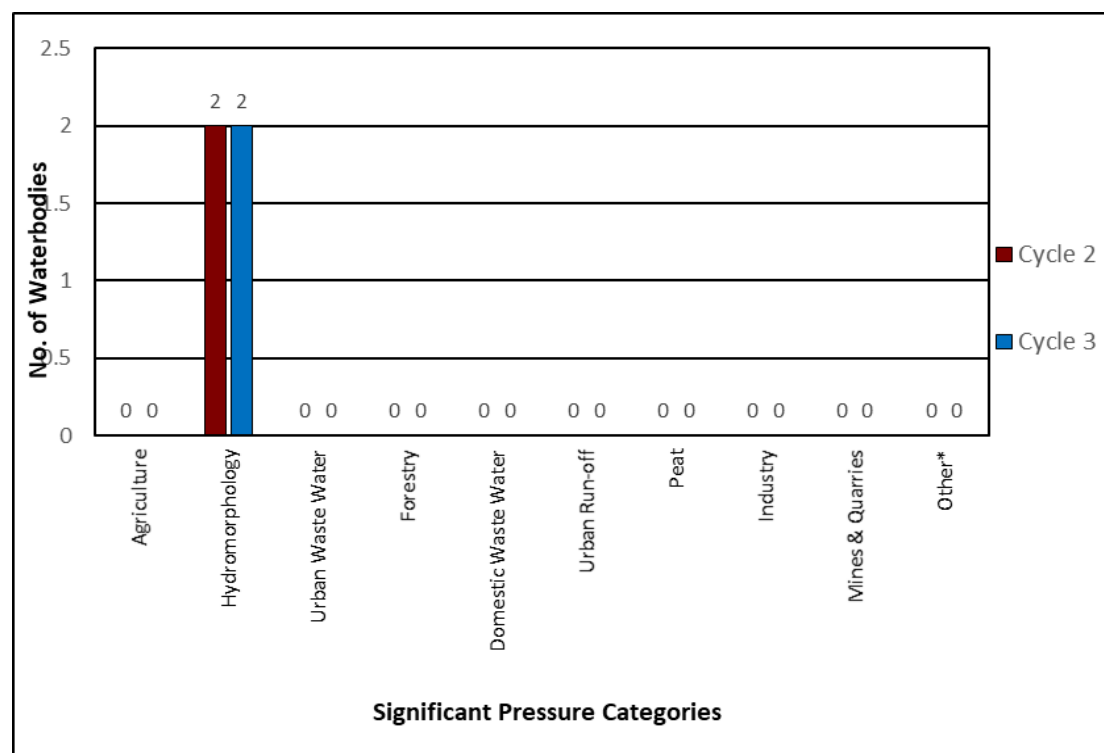


Figure 18: Locations of Waterbodies where Domestic Waste Water is a Significant Pressure

5.2 High Status Objective Waterbodies

- ◆ Hydromorphology is also the dominant significant pressure in 2 out of 4 *At Risk* High Status Objective waterbodies, with morphological and hydrological pressures as a result of channelisation identified in the Cock Brook_010 and Lemonstown Stream_010.



*Other – abstractions, aquaculture, atmospheric, anthropogenic pressures, historically polluted sites, waste, water treatment and invasive species have all been grouped into the “Other” pressure category for the purpose of this report

Figure 19: Significant Pressure in *At Risk* High Status Objective Waterbodies

6 Source Load Apportionment Modelling (SLAM)

- ◆ The EPA has developed Source Load Apportionment Models (SLAM) for both P and N which estimate the proportion of the phosphorus and nitrogen inputs, respectively, to waters in each catchment that comes from each sector.
- ◆ The main data inputs for the model for agriculture are the 2018 land parcel (LPIS) and animal (AIMs) data from the Department of Agriculture Food and the Marine. The Urban Waste Water (UWW) data comes from Irish Water’s discharge monitoring data. The model also calculates the inputs from a range of other sectors, including for example, forestry, septic tanks, peat, urban runoff and atmospheric deposition.
- ◆ In the catchment discharges from urban waste water and pastures are responsible for 69% and 19% of the nitrogen load respectively while discharges from urban waste water contribute 92% of the phosphorus loadings for the catchment (Figure 17).

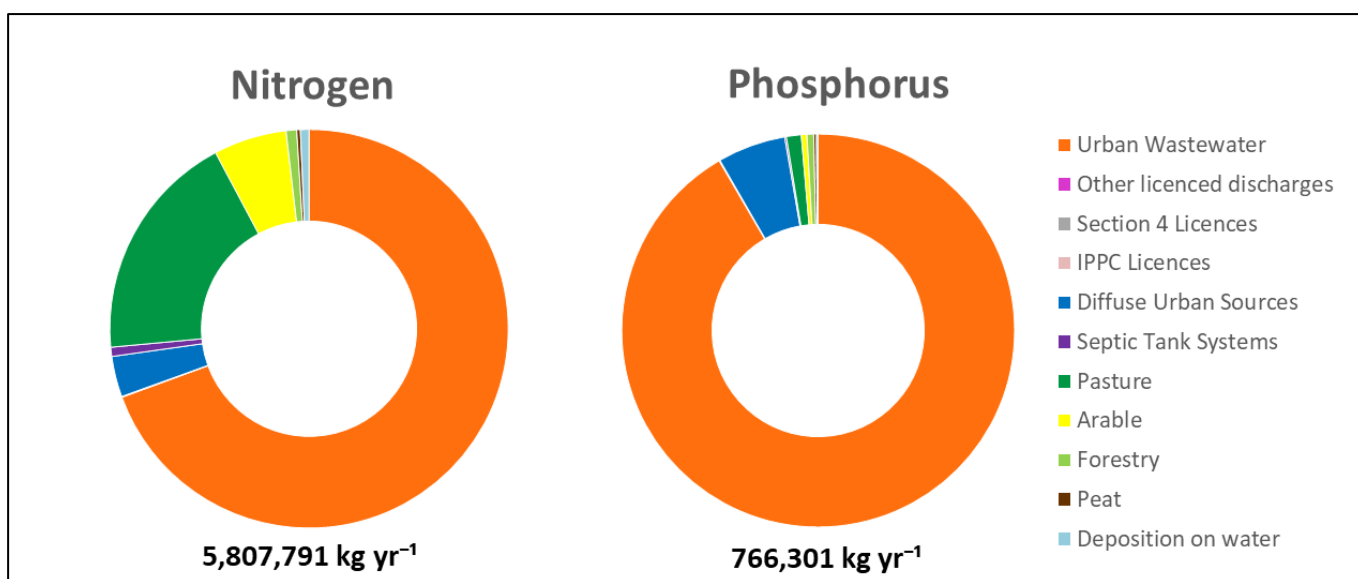


Figure 20: Estimated Proportions of N & P from Each Sector in the Liffey and Dublin Bay Catchment

7 Load Reduction Assessment

7.1 Nitrogen Load Reduction

- ◆ An assessment was undertaken to determine if nitrogen reductions in rivers, streams and lakes are required for Transitional and Coastal (TRACs) waterbodies to achieve their WFD environmental objective. The outcome of the assessment indicated that 10 of the 46 catchments require N reductions in our inland waters to restore some TRAC waterbodies. The assessment report can be found at <https://www.catchments.ie/assessment-of-the-catchments-that-need-reductions-in-nitrogen-concentrations-to-achieve-water-quality-objectives>.
- ◆ The N reduction required in the Liffey and Dublin Catchment is considered to be medium and ranges from 100-500 t N/yr.
- ◆ Source load apportionment modelling indicates that the main sources of N in the catchment are 19% pasture, 6% arable, 69% Urban waste water and 6% from miscellaneous sources.

7.2 Phosphorous / Sediment Load Reduction

- ◆ Further modelling work is required to determine if and what P load reductions are required.

Figure 21 highlights areas where agricultural measures for nitrogen, sediment and phosphorus should be targeted. Waterbodies with orange fill are areas where nitrogen measures should be targeted, waterbodies with blue fill are areas where sediment or phosphorus should be targeted and waterbodies with orange and blue hatching highlight areas where multiple measures (phosphorus /sediment and nitrogen) are required. Pollution Impact Potential mapping for both phosphorus and nitrogen in the catchment are provided in Appendix 2.

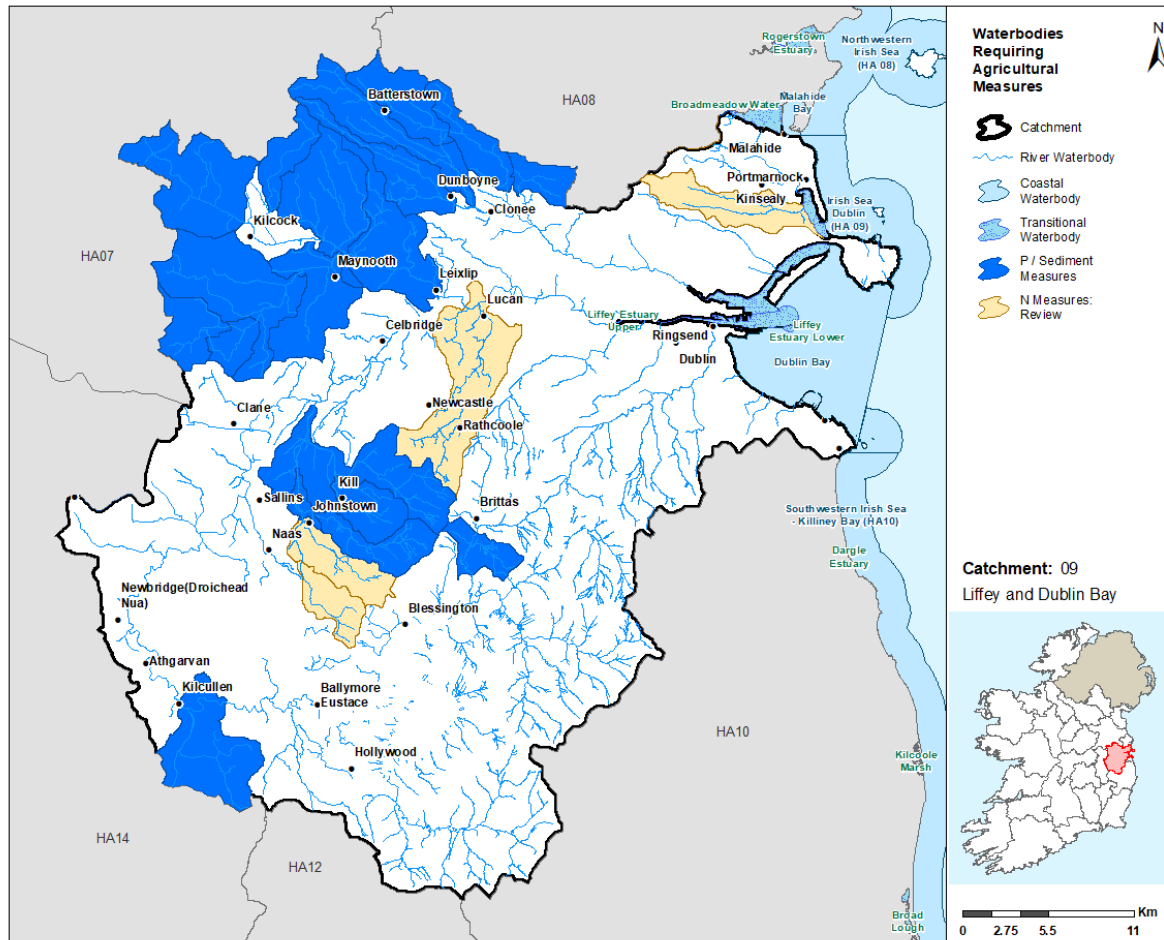


Figure 21: Waterbodies where Agricultural Measures should be Targeted

8 2nd Cycle Areas for Action

8.1 Area for Action Overview

- ◆ There were 6 Areas for Action, comprising of 23 waterbodies, selected for further characterisation and action in the catchment for the 2nd Cycle River Basin Management Plan. The Areas for Action in the catchment are listed in Table 7 and shown in Figure 22. LAWPRO, in conjunction with local authorities and stakeholders from the Midlands & East Regional Operational Committee, have been working in these areas since 2018.

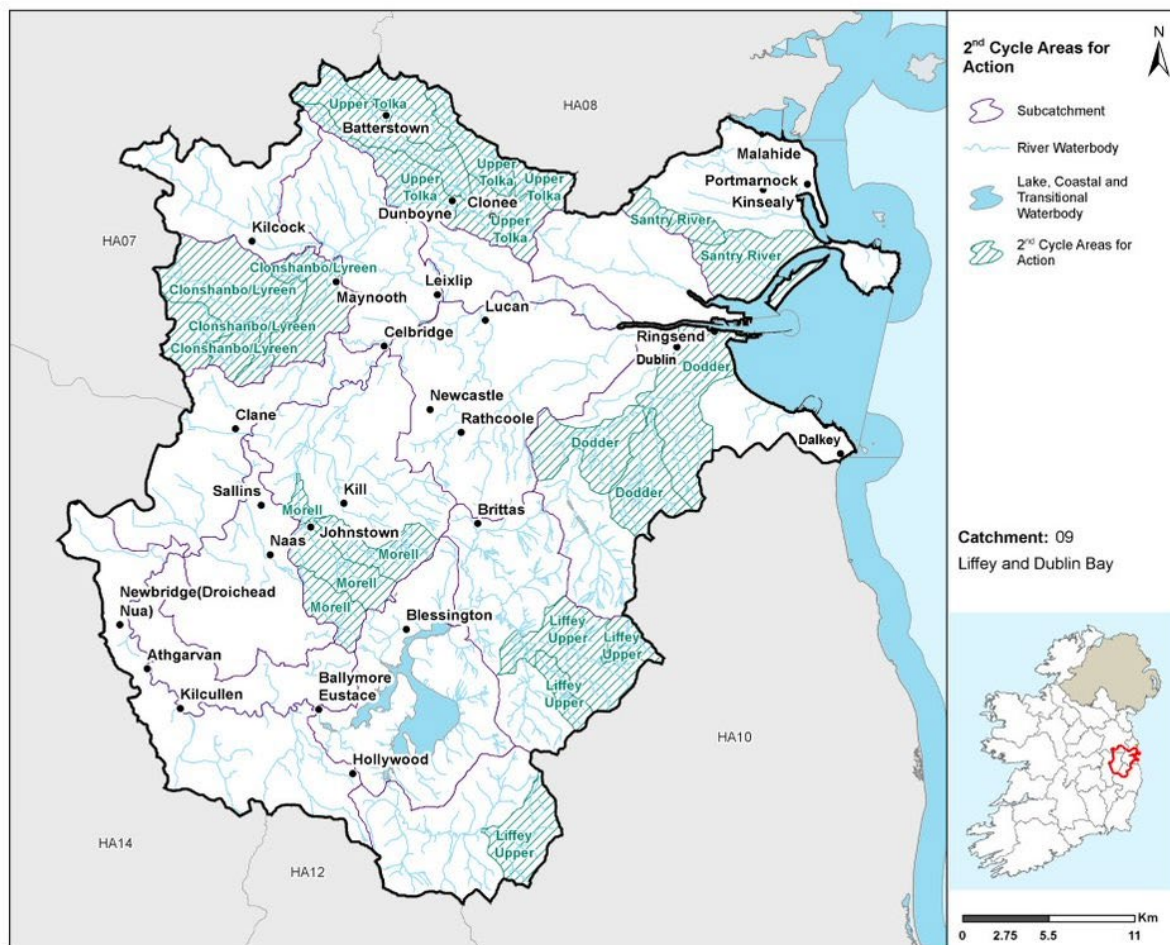


Figure 22: 2nd Cycle Areas for Action Locations

Table 7: 2nd Cycle Areas for Action

2 nd Cycle Area for Action	Number of waterbodies	Sub-catchment	Local Authority	Reason for Selection
Dodder	3	9_16	Dublin City Dun Laoghaire Rathdown South Dublin	<ul style="list-style-type: none"> • Will support improvement in the estuary. • Building on knowledge gained from a study on the Merrion Strand where a management plan is currently in progress between DCC and EPA. • Diffuse urban pilot that could be compared to results of Santry project. • Possibility to study historic landfill in the upper reaches and apply knowledge elsewhere. • Invasive species survey has been carried out which should be investigated further and include mitigation. • Active community group (Dodder Action Group). • Flows into SAC and Dublin Bay Biosphere.

2 nd Cycle Area for Action	Number of waterbodies	Sub-catchment	Local Authority	Reason for Selection
				<ul style="list-style-type: none"> • Important trout fishery, recruitment. Salmon in lower and ongoing work for removal of weirs to allow salmon to pass. • Important for recreation. Greenway proposed which would increase tourism. • Ringsend agglomeration is on the Irish Water investment programme.
Morell	4	9_14	Kildare	<ul style="list-style-type: none"> • Pilot project to address issues and measures associated with quarries. • Important for salmonid recruitment on the Liffey. • Three potential quick wins. • Source of the Grand Canal. • Potential case study for considering the role of planning. • Rathmore stream_010 is a headwater stream to the river Morell and runoff in this area is resulting in bank erosion and siltation downstream. • Two deteriorated water bodies.
Clonshanbo/Lyreen	4	9_9	Kildare	<ul style="list-style-type: none"> • Building on existing work, including stream works, completed by Kildare County Council and IFI. • Building on existing measures that have been put in place – fencing to prevent cattle access issues. There is a procedure in place to monitor the effectiveness of the fencing. • Three potential ‘quick wins’. • One deteriorated water body. • A headwaters area.
Santry River	2	9_17	Dublin City	<ul style="list-style-type: none"> • Multi-disciplinary, cross-agency project. • DCC are looking to develop projects here for green infrastructure so would build on that existing investment. • Building on Irish Water work - a drainage area study was recently completed for the catchment. • Building on on-going work by Fingal County Council. • Urban project - measures could be implemented elsewhere. • Potential to work with fisheries for guidance on river restoration. • Includes a headwaters area. • Santry is currently negatively impacting on North Bull Island (SPA, SAC, pNHA,

2 nd Cycle Area for Action	Number of waterbodies	Sub-catchment	Local Authority	Reason for Selection
				RAMSAR site, nutrient sensitive waters, UNESCO. Biosphere). Improving status in the river will eliminate the impact of the river on North Bull Island. <ul style="list-style-type: none"> • Proposed Natural Heritage Area (Santry Demesne). • Contained within Dublin Bay Biosphere. • Active community groups in area.
Upper Tolka	6	9_10	Meath	<ul style="list-style-type: none"> • One Bad status water body where the pressure is known. • Headwaters of the river Tolka. • Potential to apply the results of the Santry Project here. • Building on decline in phosphate concentrations. • Important fishery, huge amenity for youth engagement with the Tolka anglers. • Four deteriorated water bodies.

8.2 Status Change in 2nd Cycle Areas for Action

- ◆ For Cycle 3, of the 23 waterbodies in the 2nd Cycle Areas for Action, there are 3 waterbodies at Good Status, 6 waterbodies at Moderate Status, 12 waterbodies at Poor Status and 2 waterbodies where status has not been assigned.
- ◆ There is an overall improvement in the status of 3 of the 2nd cycle waterbodies across the catchment.¹⁰
- ◆ Of the 21 waterbodies within the 2nd Cycle Areas for Action which had status assigned, 13 experienced no change in status between Cycle 2 and Cycle 3, 5 waterbodies experienced an improvement and 2 were subject to deterioration in status (Figure 23). Of the 5 waterbody improvements, 2 were across the Upper Tolka Area for Action, 1 was in the Morell Area for Action, 1 was in the Dodder Area for Action and 1 was in the Liffey Upper Area for Action. Both waterbodies which experienced decline were in Dodder and Morell Areas for Action.

¹⁰ Status class change cannot be calculated for waterbodies where status has not been assigned in either cycle 2 or 3 and therefore these waterbodies are not represented in Figure 18. Percentage displayed in the chart below are in relation to the total number of waterbodies with status assigned in both cycles, as opposed to total number of all waterbodies.

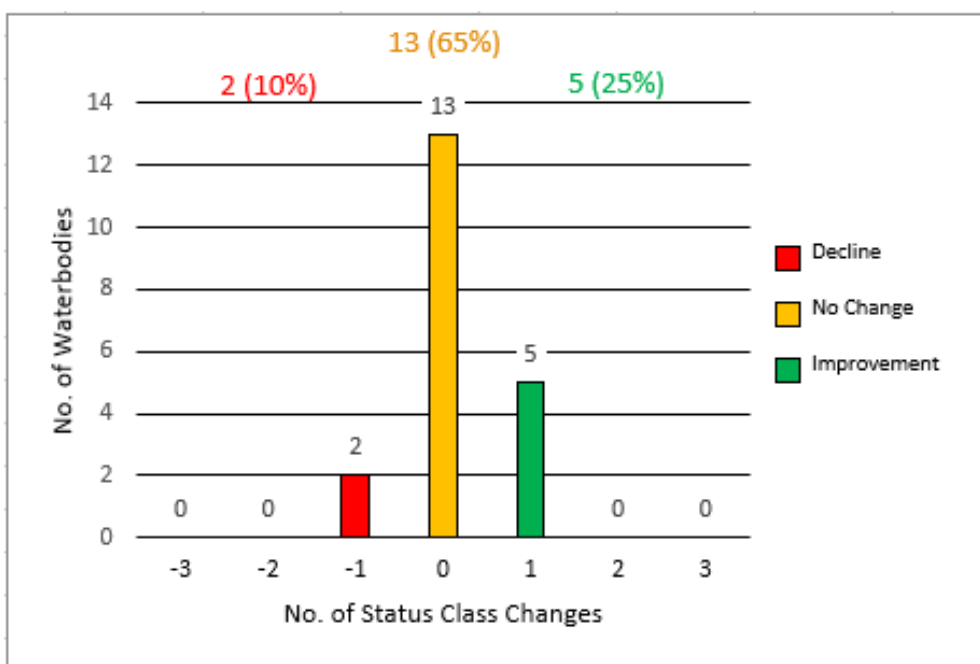


Figure 23: 2nd Cycle Area for Action Waterbody Status Class Changes between Cycle 2 and Cycle 3

8.3 Waterbody Risk in 2nd Cycle Areas for Action

- ◆ For the 23 waterbodies in the 2nd Cycle Areas for Action, 20 (87%) of these are *At Risk*, 2 (9%) in *Review* and 1 (4%) is *Not At Risk* (Figure 24).
- ◆ The largest proportion of *At Risk* waterbodies are found in river waterbodies, accounting for 20 (100%) of 20 *At Risk* waterbodies.
- ◆ Overall, there were 22 waterbodies *At Risk* within 2nd Cycle Areas for Action in Cycle 2, in Cycle 3 there are 20 waterbodies *At Risk*.

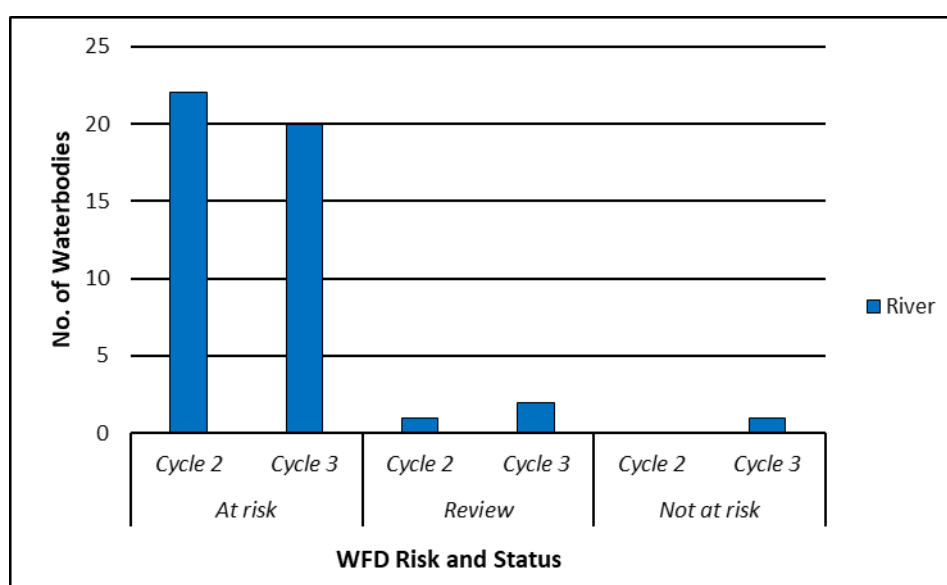
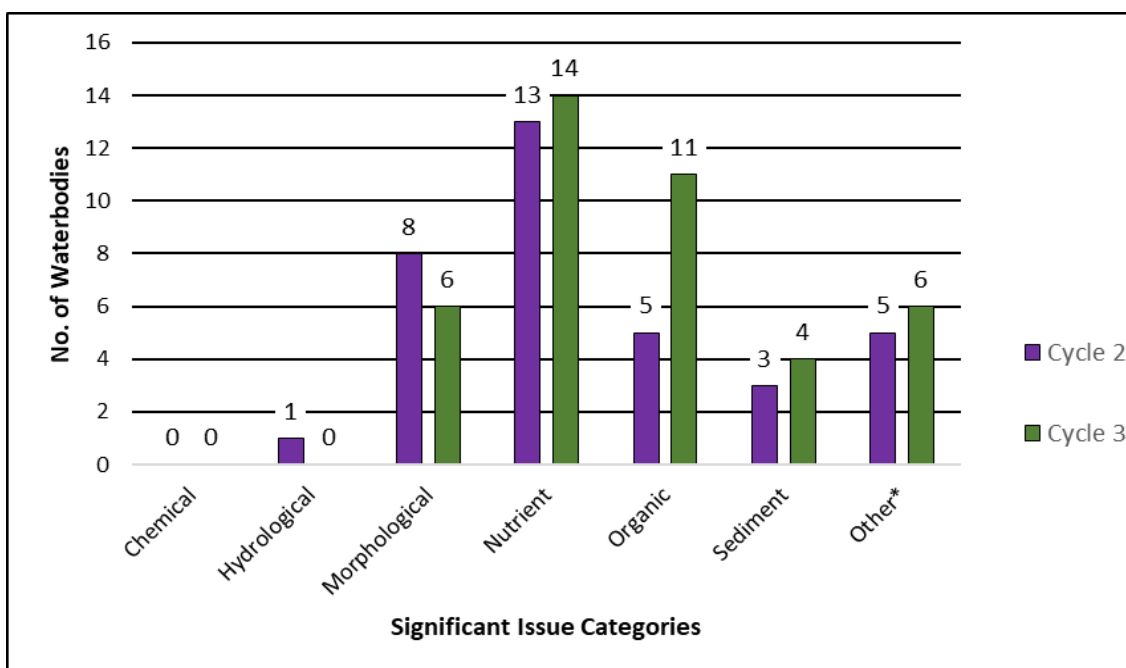


Figure 24: Number of waterbodies in each risk category in 2nd Cycle Areas for Action

8.4 Significant Issues in 2nd Cycle Areas for Action

- ◆ Based on the EPA assessment for Cycle 3, the significant issue in the 2nd Cycle Areas for Action are nutrient and organic pollution, each impacting 14 and 11 waterbodies (Figure 25). This is followed by morphological and other impacts which are each impacting 6 waterbodies and sediment which is impacting 4 waterbodies.
- ◆ The number of 2nd Cycle Areas for Action waterbodies associated with each of the significant issues categories has increased between Cycle 2 and Cycle 3 except for morphological impacts which has decreased from 8 to 6 waterbodies.

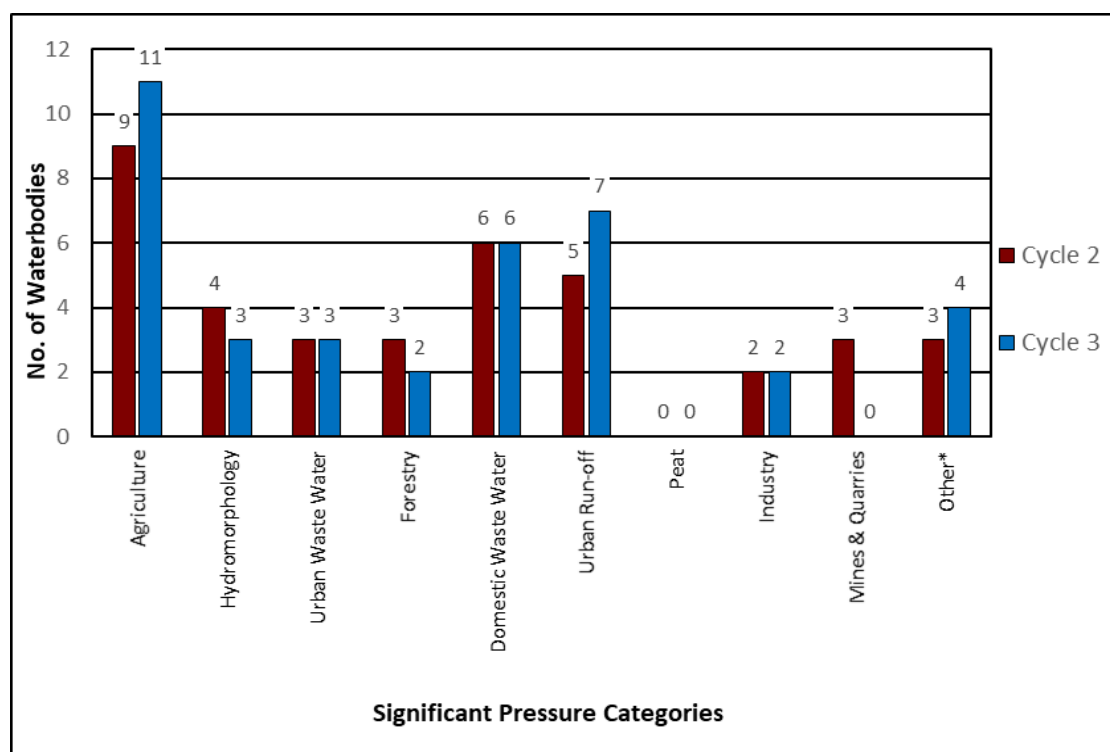


*Other - Acidification, saline intrusion, elevated temperature, litter, microbiological pollution and unknown impacts have all been grouped into the "Other" issues category for the purpose of this report

Figure 25: Significant Issues across all 2nd Cycle Areas for Action Waterbodies

8.5 Significant Pressure in 2nd Cycle Areas for Action

- ◆ For Cycle 3, in 2nd Cycle Areas for Action waterbodies in the catchment the dominant significant pressures are:
 - Agriculture – 11 waterbodies are impacted compared to 9 impacted in Cycle 2.
 - Urban run-off - 7 waterbodies are impacted compared to 5 impacted in Cycle 2.
 - Domestic Waste Water has remained a significant pressure in 6 waterbodies.
 - Other - 4 waterbodies are impacted compared to 3 impacted in Cycle 2.
 - Urban Waste Water has remained a significant pressure in 3 waterbodies.
 - Hydromorphology – 3 waterbodies are impacted compared to 4 impacted in Cycle 2.
 - Forestry - 2 waterbodies are impacted compared to 3 impacted in Cycle 2.
 - Industry has remained a significant pressure in 2 waterbodies.
- ◆ When comparing the significant pressures in the 2nd Cycle Areas for Action between Cycle 2 and 3 there has been an increase in all significant pressure categories in the catchment with the exception of hydromorphology (no longer considered a pressure in Owenadoher_010) and forestry (no longer considered a pressure in the Liffey_020).



*Other – abstractions, aquaculture, atmospheric, anthropogenic pressures, historically polluted sites, waste, water treatment and invasive species have all been grouped into the “Other” pressure category for the purpose of this report

Figure 26: Significant Pressures in 2nd Cycle Area for Action Waterbodies

9 3rd Cycle Recommended Areas for Action

9.1 Recommended Areas for Action Overview

- ◆ For the 3rd Cycle Draft River Basin Management Plan Areas for Action have been extended out to not only include Prioritised Areas for Action undertaken by LAWPRO which focussed on restoring waterbodies, but to also include restoration work undertaken by all agencies under Areas for Restoration. In addition, protection work is included under Areas for Protection and research, pilot schemes and community initiatives are included under Catchment Projects. The aim of the 3rd Cycle Plan is to capture all activity that is working to restore, improve and/or protect waterbodies.
- ◆ There are 21 Recommended Areas for Action, comprising of 60 waterbodies, selected for further characterisation and action in the catchment for the 3rd Cycle River Basin Management Plan. 41 of the 60 waterbodies in the 3rd Cycle Recommended Areas for Action are *At Risk*, 9 are in *Review* and 10 are *Not At Risk*. The 21 Recommended Areas for Action consist of 2 Areas for Protection 16 Areas for Restoration and 3 Areas for Catchment Projects. LAWPRO are the proposed lead organisation in 7 Recommended Areas for Action, Wicklow County Council are the proposed lead organisation in 2 Recommended Areas for Action, Dublin City Council are the proposed lead organisation in 2 Recommended Areas for Action, Dublin City Council together with Fingal County Council are the proposed lead organisation in 2 Recommended Areas for Action, South Dublin City Council together with Dublin City Council are the proposed

lead organisation in 2 Recommended Areas for Action, Dun Laoghaire Rathdown County Council together with Dublin City Council are the proposed lead organisation in 1 Recommended Area for Action, Inland Fisheries Ireland is the proposed lead organisation in 1 Recommended Area for Action, Kildare County Council are the proposed lead organisation in 3 Recommended Areas for Action, South Dublin City Council are the proposed lead organisation in 1 Recommended Area for Action, and South Dublin County Council and Dun Laoghaire Rathdown County Council is the proposed lead organisation in the remaining Recommended Area for Action.

- ◆ The Recommended Areas for Action in the catchment are listed in Table 8 and shown in Figure 27. The reason for selection for each waterbody in the catchment included as part of a Recommended Area for Action is provided in Appendix 3.

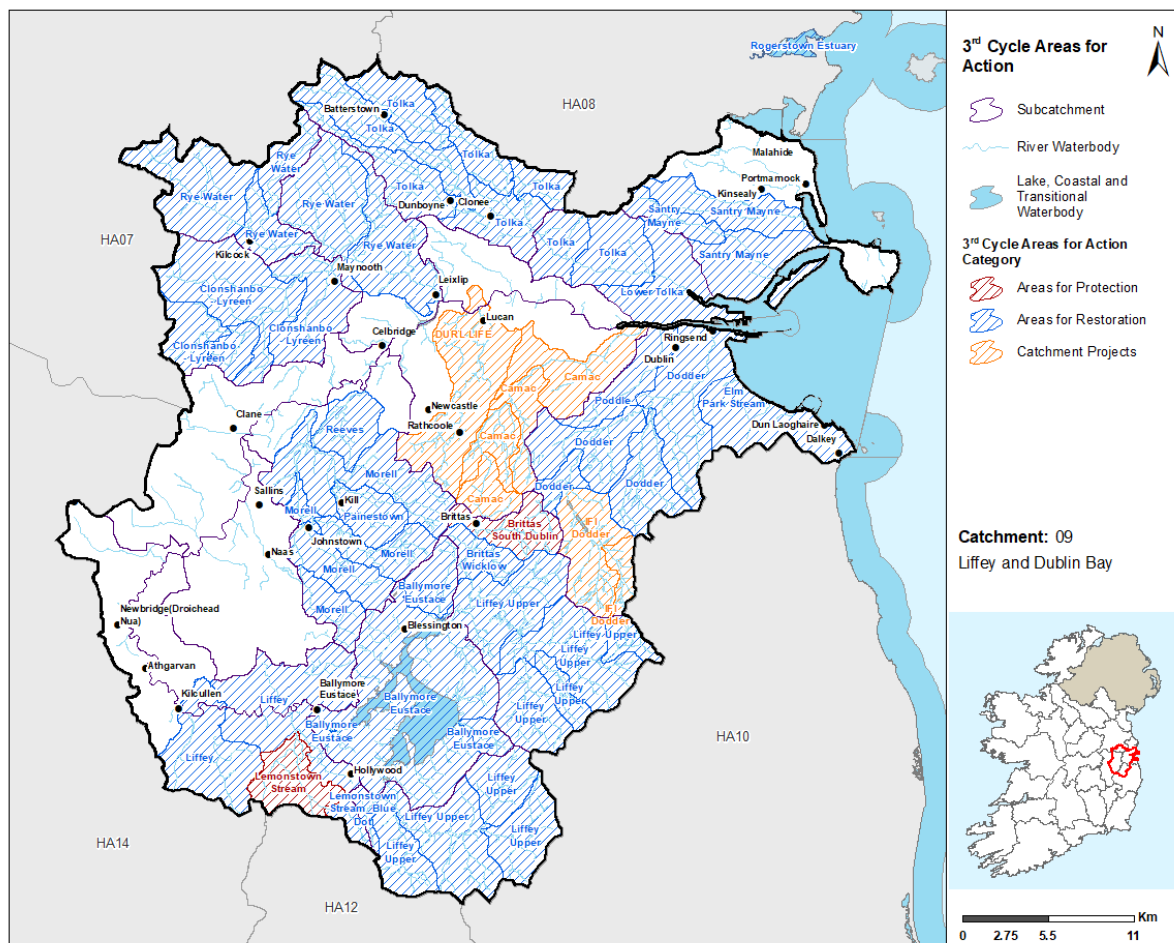


Figure 27: 3rd Cycle Recommended Areas for Action Locations

Table 8: 3rd Cycle Recommended Areas for Action Breakdown

3rd Cycle Recommended Areas for Action	Number of Waterbodies	Recommended Areas for Action Category	Recommended Areas for Action Sub-category	Lead Organisation
Brittas South Dublin	1	Protection	LA Areas for Protection Local Authorities	South Dublin County Council
Brittas Wicklow	1	Restoration	LA Areas for Restoration Local Authorities	Wicklow County Council
Liffey Upper	9	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Elm Park Stream	1	Restoration	Public Health Areas for Restoration NFGWS, IW, HSE, LAs, SFPA	Dun Laoghaire Rathdown County Council and Dublin City Council
Camac	4	Catchment Projects	Public Body Project	Dublin City Council
Clonshanbo - Lyreen	4	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Ballymore Eustace	4	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
IFI Dodder	2	Catchment Projects	Public Body Research	IFI
Dodder	4	Restoration	LA Areas for Restoration Local Authorities	South Dublin County Council and Dublin City Council
Tolka	8	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Rye Water	5	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Liffey	2	Restoration	LA Areas for Restoration Local Authorities	Kildare County Council
DURL LIFE	1	Catchment Projects	LIFE	South Dublin County Council and Dun Laoghaire Rathdown County Council
Lemonstown Stream_Blue Dot	1	Restoration	Blue Dot Areas for Action LAWPRO and Others	LAWPRO
Lemonstown Stream	1	Protection	LA Areas for Protection Local Authorities	Wicklow County Council
Morell	5	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Santry Mayne	3	Restoration	LA Areas for Restoration Local Authorities	Dublin City Council and Fingal County Council

3rd Cycle Recommended Areas for Action	Number of Waterbodies	Recommended Areas for Action Category	Recommended Areas for Action Sub-category	Lead Organisation
Painestown	1	Restoration	LA Areas for Restoration Local Authorities	Kildare County Council
Poddle	1	Restoration	LA Areas for Restoration Local Authorities	South Dublin County Council and Dublin City Council
Reeves	1	Restoration	LA Areas for Restoration Local Authorities	Kildare County Council
Lower Tolka	1	Restoration	LA Areas for Restoration Local Authorities	Dublin City Council

10 Catchment Summary

- Of the 81 river waterbodies, 44 are *At Risk* of not meeting their WFD objectives.
- 1 out of 6 lake waterbodies (Golden Falls) is *At Risk* of not meeting its WFD objectives.
- 2 out of 6 transitional waterbodies (Broadmeadow Water & Tolka Estuary) are *At Risk* of not meeting their WFD objectives.
- 1 out of 5 coastal waterbodies (Malahide Bay) is *At Risk* of not meeting its WFD objectives.
- There are 8 groundwater bodies *At Risk* of not meeting their WFD objectives.
- There has been an overall improvement across the catchment with 56 waterbodies *At Risk* in Cycle 3 compared to 59 waterbodies *At Risk* in Cycle 2.
- The main significant issues are from nutrients pollution and organic pollution followed by morphological impacts, other⁸, sediment, hydrological impacts and chemical pollution.
- The main significant pressures are agriculture followed by urban run-off, urban waste water, domestic waste water, hydromorphology, other, industry, forestry and mines & quarries.
- In the 2nd Cycle Areas for Action 22 waterbodies were *At Risk* in Cycle 2 and 20 waterbodies are *At Risk* in Cycle 3. Improvements have occurred in waterbodies where agriculture, urban waste water, hydromorphology and forestry were a significant pressure in Cycle 2 but are no longer a significant pressure in Cycle 3.
- There are 21 3rd Cycle Recommended Areas for Action for Cycle 3. They comprise of 60 waterbodies with 41 waterbodies *At Risk*, 9 in *Review* and 10 *Not At Risk*.

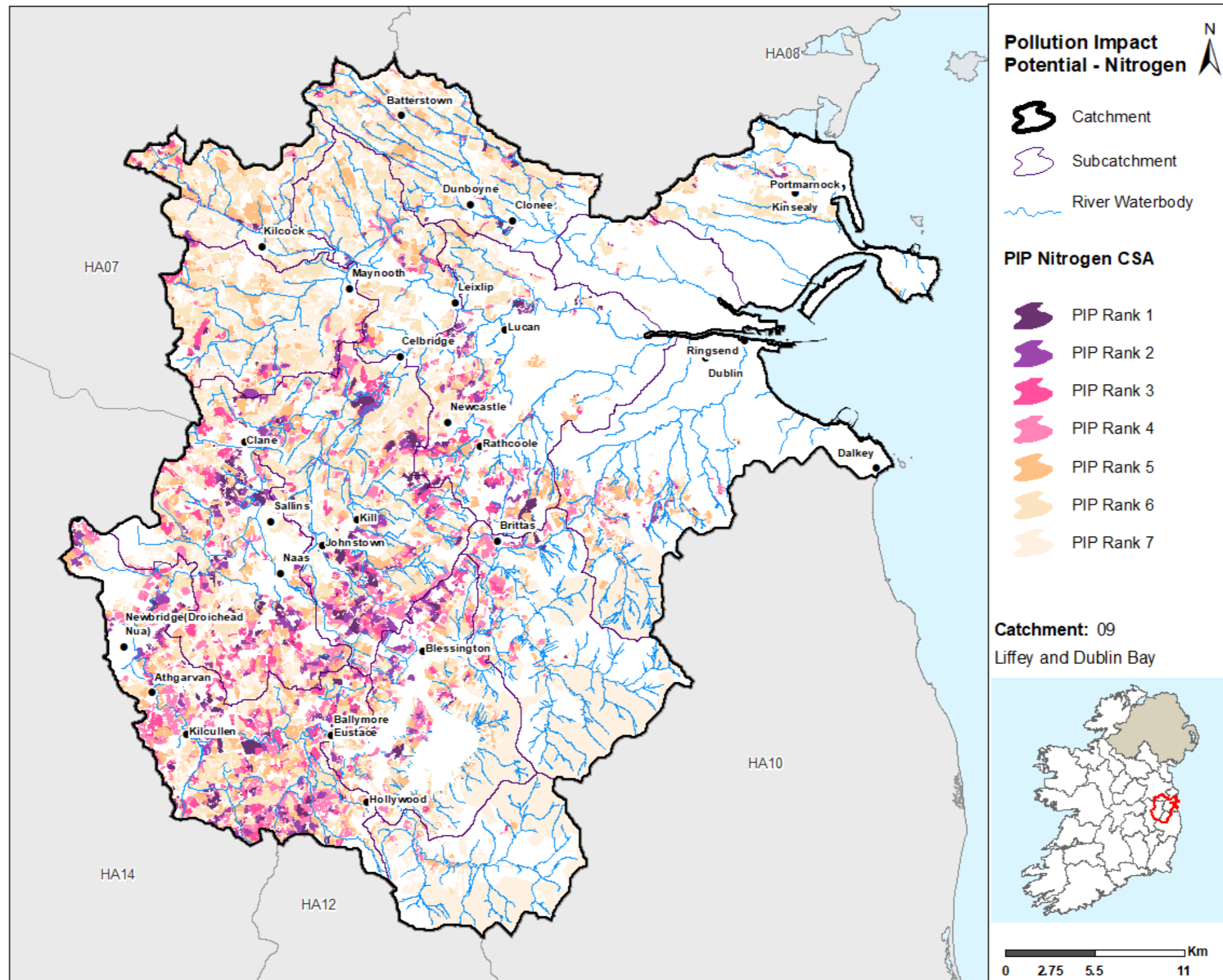
Appendix 1

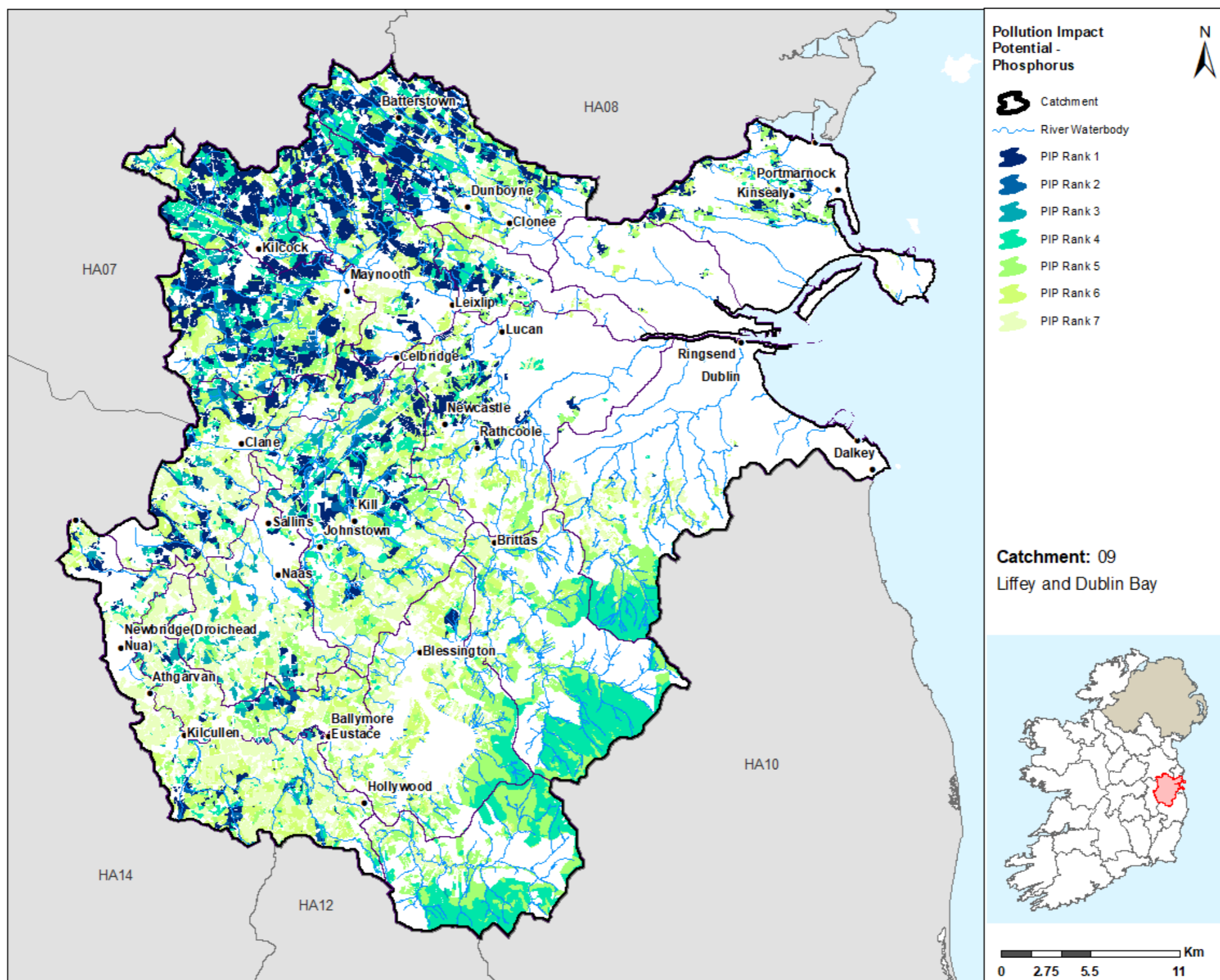
High ecological status objective waterbodies

Waterbody Name	Waterbody Type	Waterbody Code	Status 2013-2018
COCK BROOK_010	River	IE_EA_09C040100	Good
LEMONSTOWN STREAM_010	River	IE_EA_09L030100	Good
Northwestern Irish Sea (HA 08)	Coastal	IE_EA_020_0000	High
Southwestern Irish Sea - Killiney Bay (HA10)	Coastal	IE_EA_100_0000	High

Appendix 2

Pollution Impact Potential Mapping





Appendix 3

Summary information on all waterbodies in the Liffey and Dublin Bay Catchment

Subcatchment Code	Waterbody Code	Waterbody Name	Waterbody Type	Risk 10-15	Risk 13-18	Status 10-15	Status 13-18	High Ecological Status Objective Waterbody	Significant Pressures	Recommended Area for Action Name	Recommended Area for Action (reasons for selection)
	IE_09_AWB_GCB	Grand Canal Basin (Liffey and Dublin Bay)	River		At risk	Good	Moderate	No			
	IE_09_AWB_GCMLE	Grand Canal Main Line (Liffey and Dublin Bay)	River		Not at risk	Good	Good	No			
	IE_09_AWB_GCNL	Grand Canal Naas Line (Liffey and Dublin Bay)	River		At risk	Good	Good	No			
	IE_09_AWB_RCMLE	Royal Canal Main Line (Liffey and Dublin Bay)	River		Review	Good	Good	No			
09_17	IE_EA_08G080700	GAYBROOK_010	River	Review	Review	Unassigned	Unassigned	No			
09_7	IE_EA_09A020300	AWILLYINISH STREAM_010	River	Review	Review	Unassigned	Unassigned	No			
09_13	IE_EA_09B020300	BRITTAS_010	River	At risk	Not at risk	Moderate	Good	No		Brittas South Dublin	SDCC to employ basic measures. WW to work in 2nd order stream - Lisheen.
09_13	IE_EA_09B020500	BRITTAS_020	River	At risk	At risk	Moderate	Moderate	No	Ag	Brittas Wicklow	LA to include with Brittas_010 LAWPRO (Q-Value improved in 2019) NFGWS - Ballyfolan GWS
09_13	IE_EA_09B030100	BALLYDONNELL BROOK_010	River	Review	Review	Good	Moderate	No		Liffey Upper	expand Liffey Upper PAA to complete sub catchment SAC ONM
09_13	IE_EA_09B040100	BALLYLOW BROOK_010	River	At risk	At risk	Moderate	Moderate	No	For	Liffey Upper	Existing PAA - pH project. Continue project. Forestry significant pressure 2027 EO
09_8	IE_EA_09B080200	BALLINAGEE_010	River	Not at risk	Not at risk	Good	Good	No		Liffey Upper	expand Liffey Upper PAA to complete sub catchment
09_16	IE_EA_09B130400	BREWERY STREAM_010	River	Review	Review	Unassigned	Unassigned	No		Elm Park Stream	Capturing work on Elm Park stream, Trimbleston stream and the bathing waters at Merrion Strand and Sandymount. Measures to improve WQ and Bathing Waters. DLRD to define action. Elm Park stream unmonitored coastal stream in WB. Work will not shown improvements in the Brewery Stream MP.
09_15	IE_EA_09C020100	CAMAC_010	River	Not at risk	Not at risk	Good	Good	No		Camac	Flood Alleviation Scheme being proposed. DCC lead authority with SDCC and OPW. Pursuit of opportunistic river restoration improvements as co-benefits through appropriate steering of ongoing, planned

											and new non-WFD Projects across the Camac WB Catchment including the Camac FAS
09_15	IE_EA_09C020250	CAMAC_020	River	At risk	At risk	Moderate	Moderate	No	UR	Camac	Flood Alleviation Scheme being proposed. DCC lead authority with SDCC and OPW. Pursuit of opportunistic river restoration improvements as co-benefits through appropriate steering of ongoing, planned and new non-WFD Projects across the Camac WB Catchment including the Camac FAS
09_15	IE_EA_09C020310	CAMAC_030	River	At risk	At risk	Poor	Poor	No	Ind, UR	Camac	Flood Alleviation Scheme being proposed. DCC lead authority with SDCC and OPW. Pursuit of opportunistic river restoration improvements as co-benefits through appropriate steering of ongoing, planned and new non-WFD Projects across the Camac WB Catchment including the Camac FAS
09_15	IE_EA_09C020500	CAMAC_040	River	At risk	At risk	Poor	Poor	No	Hymo, UR, UWW	Camac	Flood Alleviation Scheme being proposed. DCC lead authority with SDCC and OPW. Pursuit of opportunistic river restoration improvements as co-benefits through appropriate steering of ongoing, planned and new non-WFD Projects across the Camac WB Catchment including the Camac FAS
09_9	IE_EA_09C030300	CLONSHANBO_010	River	At risk	At risk	Poor	Poor	No	Ag, DWW	Clonshanbo - Lyreen	Existing PAA. LCA to be completed but research project proposed to identify source of sediment. Implications for transition strategy to LA to be discussed.
09_9	IE_EA_09C030600	CLONSHANBO_020	River	At risk	At risk	Poor	Poor	No	Ag, DWW, Other	Clonshanbo - Lyreen	Existing PAA. LCA to be completed but research project proposed to identify source of sediment. Implications for transition strategy to LA to be discussed.
09_12	IE_EA_09C040100	COCK BROOK_010	River	At risk	At risk	Good	Good	Yes	Hymo	Ballymore Eustace	HSO WB- Ecology high but downgraded because of hymo. Feeds into Liffey_040
09_15	IE_EA_09C500830	Castletown (Dublin-Kildare)_010	River	Review	Review	Unassigned	Unassigned	No			
09_16	IE_EA_09D010010	DODDER_010	River	Not at risk	Not at risk	Good	Good	No		IFI Dodder	IFI research IFI have an ongoing interest in the Dodder catchment as its an important river for brown trout, sea trout and salmon, although salmon don't migrate past Donnybrook due to impassable weirs The catchment has been selected as part of IFI's national climate change mitigation research project and as part of this project it has been

											included in IFI's national river water temperature monitoring network.
09_16	IE_EA_09D010100	DODDER_020	River	Not at risk	Not at risk	Good	Good	No		IFI Dodder	IFI research IFI have an ongoing interest in the Dodder catchment as its an important river for brown trout, sea trout and salmon, although salmon don't migrate past Donnybrook due to impassable weirs The catchment has been selected as part of IFI's national climate change mitigation research project and as part of this project it has been included in IFI's national river water temperature monitoring network.
09_16	IE_EA_09D010300	DODDER_030	River	Review	Review	Good	Moderate	No		Dodder	Deteriorated WB, SDCC to investigate. IFI Catchment Project
09_16	IE_EA_09D010620	DODDER_040	River	At risk	At risk	Moderate	Poor	No	UR	Dodder	Existing PAA to transfer to LA AfA. IFI - Catchment Project
09_16	IE_EA_09D010900	DODDER_050	River	At risk	At risk	Moderate	Moderate	No	Other, UR, UWW	Dodder	Existing PAA to transfer to LA AfA. IFI - Catchment Project
09_8	IE_EA_09D020200	DOUGLAS (LIFFEY)_010	River	At risk	Not at risk	Good	Good	No		Liffey Upper	expand Liffey Upper PAA to complete sub catchment
09_10	IE_EA_09D040500	DUNBOYNE STREAM_010	River	At risk	At risk	Moderate	Moderate	No	Ag, DWW	Tolka	Existing PAA - rename to Tolka PAA Ag, DWW significant pressures Ag Poor drainage - beyond 2027 EO
09_12	IE_EA_09G090950	GOLDENHILL_010	River	Not at risk	Not at risk	Unassigned	Unassigned	No		Ballymore Eustace	To complete sub-catchment
09_17	IE_EA_09H230880	HOWTH_010	River	Review	Review	Unassigned	Unassigned	No			
09_3	IE_EA_09J010950	Jeninstown stream_010	River	At risk	At risk	Unassigned	Unassigned	No	Ag, DWW	Rye Water	unassigned; to complete Sub-catchment.
09_8	IE_EA_09K010060	KING'S (LIFFEY)_010	River	At risk	At risk	Moderate	Moderate	No	For	Liffey Upper	Existing PAA - pH project. Continue project. May consider change to Catchment Scale Research category Forestry significant pressure SAC ONM 2027 EO
09_8	IE_EA_09K010100	KING'S (LIFFEY)_020	River	At risk	At risk	Good	Moderate	No	For	Liffey Upper	expand Liffey Upper PAA to complete sub catchment Forestry significant pressure SAC ONM 2027 EO
09_7	IE_EA_09K260890	KILMURRY_010	River	Review	Review	Unassigned	Unassigned	No			
09_13	IE_EA_09L010100	LIFFEY_010	River	At risk	At risk	Moderate	Moderate	No	Other	Liffey Upper	Existing PAA - pH project. Continue project. May consider change to Catchment Scale Research category

											SAC ONM
09_13	IE_EA_09L010200	LIFFEY_020	River	At risk	Review	Moderate	Good	No		Liffey Upper	Existing PAA - pH project. Continue project. May consider change to Catchment Scale Research category
09_13	IE_EA_09L010250	LIFFEY_030	River	Not at risk	Not at risk	Good	Good	No		Liffey Upper	expand Liffey Upper PAA to complete sub catchment
09_12	IE_EA_09L010400	LIFFEY_040	River	At risk	Review	Moderate	Moderate	No		Ballymore Eustace	SAC ONM Proposed by KE Improvement from Q3-4 (2016) to Q4 (2019). Body of work carried out investigating/assessing local pressursures on water quality. Build on work done by KCC in protecting waterbody. Build on community engagement with Ballymore Eustace Trout & Salmon Anglers Association. Proposed by NFGWS Blakestown / Brittonstown GWS
09_11, 09_2	IE_EA_09L010600	LIFFEY_050	River	At risk	At risk	Moderate	Moderate	No	Ag, DWW, Hymo	Liffey	inputting WB to Liffey_060 2027 EO Hymo; DWWTS significant pressure
09_11, 09_2	IE_EA_09L010700	LIFFEY_060	River	At risk	At risk	Moderate	Moderate	No	Ag	Liffey	Improvement at Kilcullen Br. from Q4 (2016) to Q4-5 (2019). Improvement also recorded on the Kilcullen Stream (Br. u/s Liffey River Confl.) Q3-4 (2016) to a Q4 (2019). LCA and IM in Liffey_060 (Kilcullen Stream). Build on work done by KCC in protecting the waterbody.
09_11, 09_2	IE_EA_09L010850	LIFFEY_070	River	Not at risk	Not at risk	Good	Good	No			
09_11, 09_2	IE_EA_09L011000	LIFFEY_080	River	Not at risk	Not at risk	Good	Good	No			
09_11, 09_2	IE_EA_09L011050	LIFFEY_090	River	Not at risk	Not at risk	Good	Good	No			
09_6, 09_7	IE_EA_09L011200	LIFFEY_100	River	Review	Review	Moderate	Moderate	No			
09_6, 09_7	IE_EA_09L011300	LIFFEY_110	River	Review	Review	Unassigned	Unassigned	No			
09_6, 09_7	IE_EA_09L011500	LIFFEY_120	River	Not at risk	Not at risk	Good	Good	No			
09_14, 09_7	IE_EA_09L011600	LIFFEY_130	River	Not at risk	Not at risk	Good	Good	No			
09_14, 09_7	IE_EA_09L011700	LIFFEY_140	River	Not at risk	Not at risk	Good	Good	No			
09_15, 09_5	IE_EA_09L011900	LIFFEY_150	River	Review	Review	Poor	Good	No			
09_1, 09_15	IE_EA_09L012040	LIFFEY_160	River	Review	Review	Unassigned	Unassigned	No			
09_1, 09_15	IE_EA_09L012100	LIFFEY_170	River	At risk	Review	Moderate	Good	No		DURL LIFE	DURL LIFE Project
09_1, 09_15	IE_EA_09L012350	LIFFEY_180	River	At risk	At risk	Unassigned	Unassigned	No	UR, UWW		
09_1, 09_15	IE_EA_09L012360	LIFFEY_190	River	At risk	At risk	Moderate	Moderate	No	UR, UWW		
09_9	IE_EA_09L020035	LYREEN_010	River	At risk	At risk	Poor	Poor	No	Ag, DWW, Ind	Clonshanbo - Lyreen	Existing PAA. LCA to be completed but research project proposed to identify source of sediment. Implications for transition strategy to LA to be discussed.
09_9	IE_EA_09L020100	LYREEN_020	River	At risk	At risk	Poor	Poor	No	Ag, UR	Clonshanbo - Lyreen	Existing PAA. LCA to be completed but research project proposed to identify source of sediment. Implications for transition strategy to LA to be discussed.

09_11	IE_EA_09L030100	LEMONSTOWN STREAM_010	River	At risk	At risk	Good	Good	Yes	Hymo	Lemonstown Stream_Blue Dot	Hymo significant pressure 2027 EO Blue Dot Proposed by WW Dropped from Q4-5 to Q4 in 2016, and has stayed there in 2019. There are high status objectives here. Contains HSO site
09_11	IE_EA_09L030600	LEMONSTOWN STREAM_020	River	Not at risk	Not at risk	Good	Good	No		Lemonstown Stream	Biological rating Q4 (2019) has remained unchanged from 2016. Build on work done by KCC in protecting waterbody.
09_14	IE_EA_09M010060	MORELL_010	River	At risk	Not at risk	Moderate	Good	No		Morell	existing PAA; WB not at risk protect function
09_14	IE_EA_09M010100	MORELL_020	River	At risk	At risk	Poor	Poor	No	Hymo	Morell	existing PAA; Hymo significant pressure 2027 EO IFI proposal The Morrell River provides spawning habitat for a key population of Atlantic Salmon in addition to supporting significant populations of Brown Trout. It also support populations of the Freshwater Crayfish (Austropotamobius pallipes) and Lamprey (Lampetra sp.) species listed under Annex II of the EU Habitats Directive. Stations 0100 and 0150 are currently showing poor status (Johnstown area). When the Morell was dealt with in the last area for action, the poor upper catchment status was the focus e.g quarries. It would make sense to continue this work downstream and try to improve the status of the mid-section where signs of enrichment are evident.
09_14	IE_EA_09M010150	MORELL_030	River	At risk	At risk	Moderate	Poor	No	Ag, Hymo	Morell	existing PAA; Ag, Hymo significant pressure Poor drainage - beyond 2027 EO
09_14	IE_EA_09M010300	MORELL_040	River	Not at risk	At risk	Good	Moderate	No	Ag, Other	Morell	Expand existing PAA Ag, other significant pressures Poor drainage - Beyond 2027 IW proposal Treatment & Management: Turbidity. WTPs large population served. WTP is being hit with turbidity higher than it can cope with and water quality is noted to have deteriorated in more recent times; turbidity monitors at locations in the catchment installed by IW have identified the Morrall_040 WB to be the source of the

											additional turbidity. NFGWS - Kiltel GWS
09_17	IE_EA_09M030500	MAYNE_010	River	At risk	At risk	Poor	Poor	No	UR	Santry Mayne	DAA proposal It is proposed that a framework for a phased approach to a diversion concentration limit for development of infrastructure at the Airport could be integrated in a Programme of Measures for the “At Risk” waterbodies or sub-catchments under the Third Cycle RBMP. For those waterbodies or sub-catchments draining the Airport campus, the phased approach could be contained in a “Drainage Management Plan”
09_16	IE_EA_09O011700	OWENADOHER_010	River	At risk	Review	Moderate	Good	No		Dodder	Existing PAA to transfer to LA AfA. SDCC to do basic measures . Examine P levels.
09_14	IE_EA_09P010400	PAINESTOWN_010	River	At risk	At risk	Moderate	Poor	No	Ag, Hymo	Painestown	Improvement from Q3 (2016) to Q4 (2019). Possible localised urban pressures in Kill Village.
09_10	IE_EA_09P020500	PINKEEN_010	River	At risk	At risk	Poor	Unassigned	No	Ag, DWW	Tolka	Existing PAA - rename to Tolka PAA Ag, DWW significant pressures 2027 EO
09_16	IE_EA_09P030800	Poddle_010	River	At risk	At risk	Unassigned	Unassigned	No	UR	Poddle	SDCC are lead on Flood Alleviation Scheme, with DCC and OPW; which is at Part 10 planning with An Bord Pleanala. New flood storage proposed in upgraded pond in Tymon park, new ICW proposed in Tymon Park, new pond at Whitehall road. Discussions with both Parks Departments on biodiversity.
09_10	IE_EA_09P210700	Powerstown (Dublin)_010	River	Review	At risk	Unassigned	Poor	No	Ag, UR	Tolka	Existing PAA - rename to Tolka PAA Ag, URO significant pressures 2027 EO
09_3	IE_EA_09R010100	RYE WATER_010	River	At risk	At risk	Moderate	Moderate	No	Ag, DWW	Rye Water	Ag, DWW significant pressures Ag poor drainage - beyond 2027 Proposed by MH for LA Previous MCC work on farms and DWWTSs, lot of problem DWWTSs, poor soils, farmyard pollution sources. Kildare CC have worked on their side of catchment. Proposed by KE for LAWPRO Potential for Balfeaghan Br. to improve from Q3-4 (2019). Build on work done by KCC in protecting waterbody. Build on community engagement through the Rye River Group. Collaboration with Meath CC, WWI and IFI required on a number of specific issues. Agreed that LAWPRO to take on as cross LA boundary.

09_3	IE_EA_09R010300	RYE WATER_020	River	At risk	Review	Poor	Moderate	No		Rye Water	unassigned WB. To complete sub catchment Proposed by KE for LAWPRO Improvement from Q3-4 (2016) to Q4 (2019). Inputting waterbody is Rye_Water_010. Collaboration with Meath CC required.
09_5	IE_EA_09R010400	RYE WATER_030	River	At risk	At risk	Poor	Moderate	No	Ag, DWW, Hymo	Rye Water	Extend AfA to complete subcatchment. Ag,DWW,Hymo significant pressures Ag Poor drainage - beyond 2027
09_5	IE_EA_09R010600	RYE WATER_040	River	At risk	At risk	Poor	Poor	No	Ag, DWW, UR	Rye Water	Extend AfA to complete subcatchment. Ag,DWW,UWW significant pressures Ag Poor drainage - beyond 2027
09_14	IE_EA_09R020300	RATHMORE STREAM_010	River	At risk	At risk	Poor	Poor	No	Ag, Hymo	Morell	existing PAA Ag, hymo signifcan tpressure Ag poor drainage - beyond 2027 IFI proposal This stream supports a significant population of Brown trout and also provides significant spawning habitat for River Liffey Atlantic Salmon. The EPA reported moderate ecological conditions in July 2019, unchanged since 2010. Cattle access appears to be an issue at this site. This could be a good opportunity to build on the work that the local authority has already done with regard to fencing and restricting cattle access in the area.
09_14	IE_EA_09R140550	REEVES_010	River	Review	Review	Unassigned	Unassigned	No		Reeves	Unassigned WB; to complete sub-catchment
09_17	IE_EA_09S010300	SANTRY_010	River	At risk	At risk	Poor	Poor	No	UR, UWW	Santry Mayne	DCC proposal Target Action – removal, where possible, of concrete channels along the river Santry and development of natural riparian zones and flood plains. • Target Action – flood prevention works. Catchment is susceptible to flooding. River restoration measures • Pilot Schemes – investigate the use of Green Infrastructure to intercept, detain/retain and treat urban runoff prior to discharge to the river, effectively breaking the pathway in the source-pathway-receptor model Cross Agency • Project requires input from two local authorities, EPA, OPW, NPWS, IFI, IW, universities/research institutions and

									<div>community groups</div> <div><ul style="list-style-type: none">• IW already doing drainage area studies in the catchment• Buy-in already established amongst stakeholders – local Business Development Group very keen</div> <div>Multi-Disciplinary/Complex Issues</div> <div><ul style="list-style-type: none">• Agricultural impacts at the headwaters, urban pressures downstream• Poor water quality• Poor hydromorphology but with potential to improve• Flooding frequency – potential to reduce or eliminate for most frequent rainfall events• Eradication of invasive species• Develop River Association and Charter for the river</div> <div><ul style="list-style-type: none">• Pilot projects will investigate measures to address the impact of urban runoff – point source and diffuse – on surface waters• Gain thorough understanding of the use of Green Infrastructure and end of pipe measures (e.g. ICW, bioswales, detention ponds, etc.) to treat urban runoff• Broad range of urban pressures can be studied (surface runoff, misconnections, CSOs, foul sewer exfiltration, poor hydromorphology, etc.)• Will contribute to estimating the resources necessary to improve status in urban water bodies</div> <div><ul style="list-style-type: none">• Santry is currently negatively impacting on North Bull Island (SPA, SAC, pNHA, RAMSAR site, nutrient sensitive waters, UNESCO Biosphere). Improving status in the river will eliminate the impact of the river on North Bull Island• Santry Demesne is a pNHA – near the headwaters</div> <div><ul style="list-style-type: none">• Can meet 2027 deadline for at least improvement, if not good status if resources and funding are applied</div> <div><ul style="list-style-type: none">• The various sections within DCC are in a strong position to commit to this project (e.g. Drainage Division, Parks and Landscapes Services Section, Central Laboratory, Roads and Transportation</div>
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											Section) • Draft, high level plan already developed • Small, manageable catchment that can deliver improvements in status before 2027 • What is learned and applied can be implemented in other urban catchments throughout the country • Comparisons between different catchments, i.e. implementing the same or similar measures in the Dodder and Santry, both water bodies impacted by urban pressures, yet with very different characteristics (i.e. Dodder is larger and fast flowing; Santry is smaller, slow flowing and flat) • Potential to create new access routes to the North Bull Wall (Greenways for example) and enhance tourism and local economy in the area • Potential to create enhanced amenity value for the local and business communities within the catchment
09_17	IE_EA_09S011100	SANTRY_020	River	At risk	At risk	Unassigned	Unassigned	No	Other, UR, UWW	Santry Mayne	Existing PAA transfer to DCC. Same reasons as per Santry_010 above NPWS IE0000206 - North Dublin Bay SAC Humid dune slacks
09_17	IE_EA_09S071100	SLUICE_010	River	Review	Review	Unassigned	Unassigned	No			
09_10	IE_EA_09T010300	TOLKA_010	River	At risk	At risk	Poor	Moderate	No	Ag, DWW	Tolka	Existing PAA - rename to Tolka PAA Ag, DWW significant pressures Ag Poor drainage - beyond 2027 EO IFI Research
09_10	IE_EA_09T010600	TOLKA_020	River	At risk	At risk	Poor	Poor	No	Ag	Tolka	Existing PAA - rename to Tolka PAA Ag significant pressures Ag Poor drainage - beyond 2027 EO IFI Research
09_10	IE_EA_09T010800	TOLKA_030	River	At risk	At risk	Bad	Poor	No	Ind, UR	Tolka	Existing PAA - rename to Tolka industry, URO significant pressures 2027 EO IFI Research
09_4	IE_EA_09T011000	TOLKA_040	River	At risk	At risk	Poor	Poor	No	UR	Tolka	Proposed by DCC to connect Upper Tolka with DCC work in Lower Tolka URO significant pressures 2027 EO
09_4	IE_EA_09T011100	TOLKA_050	River	At risk	At risk	Poor	Poor	No	UR, UWW	Tolka	Proposed by DCC to connect Upper Tolka with DDC work in

										Lower Tolka
										UWW URO significant pressures 2027 EO
09_4	IE_EA_09T011150	TOLKA_060	River	At risk	At risk	Unassigned	Unassigned	No	UR, UWW	Lower Tolka

A desk based assessment has been carried out, following Urban Catchment Assessment Guidance, which has highlighted potential areas for further targeted field work which will lead to targeted measures in the right places.

- The Upper Tolka (headwaters) is a Prioritised Area for Action currently being investigated by LAWPRO with whom we have been working closely with and sharing knowledge. LAWPRO have also agreed to assist with proposed field work in the Lower Tolka.
- The river is impacted by a broad range of pressures; again, of a primarily urban nature, with significant pressures identified as Urban Waste Water and Urban Run-off all of which lead to elevated organic and nutrient loads. So all knowledge gained from proposed targeted field works and proposed measures (including potential pilot GI projects) could be replicated in other urban centres.
- The Tolka River discharges into the North Dublin Bay proposed Natural Heritage Area, and the South Dublin Bay and River Tolka Estuary which is a Special Protected Area. Bull Island biosphere is located here.
- To improve water quality on the Lower Tolka and develop multiple beneficial projects DCC (lead) will need to continue working closely with LAWPRO, Fingal CC, IFI, IW, OPW and NPWS and other relevant agencies and public bodies.
- The lands around the Tolka are used for many recreational activities, such as walking, cycling and fishing. There are also large areas of public parks along the river which offers public amenity areas, riparian zones and diverse habitats.
- Exacerbated pressures from development of large private greenfield sites within the sub-catchment.
- The Tolka is an important trout fishery with identified productive spawning and nursery habitats in the lower stretches.
- There are many active community groups on the river with whom a working

											relationship has been established in collaboration with the Dublin Community Water Officer such as Glasnevin Resident's Association, Tolka Anglers and Drumcondra Tidy Towns.
09_12	IE_EA_09_130	Redbog	Lake	Review	Review	Unassigned	Unassigned	No			
09_12	IE_EA_09_53	Golden Falls	Lake	At risk	At risk	Unassigned	Unassigned	No	Hymo, UWW	Ballymore Eustace	Hydromorphology is significant pressure 2027 EO Further characterisation of lake.
09_16	IE_EA_09_68	Glenasmole Lower	Lake	Not at risk	Not at risk	Good	Good	No			
09_15, 09_5	IE_EA_09_69	Leixlip Reservoir	Lake	Review	Review	Unassigned	Unassigned	No			
09_16	IE_EA_09_70	Glenasmole Upper	Lake	Not at risk	Not at risk	Good	Good	No			
09_12	IE_EA_09_71	Pollaphuca	Lake	Review	Not at risk	Moderate	Good	No			
07_17, 08_1, 08_2, 08_5, 08_6, 09_17	IE_EA_020_0000	Northwestern Irish Sea (HA 08)	Coastal	Review	Not at risk	Good	High	Yes			
08_6, 09_17	IE_EA_060_0000	Malahide Bay	Coastal	At risk	At risk	Moderate	Moderate	No	UWW		
09_16, 09_17	IE_EA_070_0000	Irish Sea Dublin (HA 09)	Coastal	Not at risk	Not at risk	Unassigned	Good	No			
09_16, 09_17	IE_EA_090_0000	Dublin Bay	Coastal	Not at risk	Not at risk	Good	Good	No			
09_16, 10_1, 10_4, 10_5, 10_8	IE_EA_100_0000	Southwestern Irish Sea - Killiney Bay (HA10)	Coastal	Not at risk	Not at risk	High	High	Yes			
08_3, 08_6, 09_17	IE_EA_060_0100	Broadmeadow Water	Transitional	At risk	At risk	Moderate	Poor	No	DWW, UWW		
09_17	IE_EA_080_0100	Mayne Estuary	Transitional	Review	Review	Unassigned	Unassigned	No			
09_17	IE_EA_090_0100	North Bull Island	Transitional	Review	Review	Unassigned	Unassigned	No			
09_17, 09_4	IE_EA_090_0200	Tolka Estuary	Transitional	At risk	At risk	Moderate	Moderate	No	UWW		
09_16, 09_17, 09_4	IE_EA_090_0300	Liffey Estuary Lower	Transitional	At risk	Review	Moderate	Good	No			
09_1, 09_15, 09_16, 09_4	IE_EA_090_0400	Liffey Estuary Upper	Transitional	At risk	Review	Moderate	Good	No			
07_1, 07_11, 07_12, 07_13, 07_15, 07_16, 07_17, 07_18, 07_19, 07_2, 07_20, 07_3, 07_4, 07_6, 07_9, 08_3, 08_4, 08_5, 09_10, 09_3, 09_7, 09_9, 14_14, 14_16, 14_3	IE_EA_G_002	Trim	Groundwater	At risk	At risk	Good	Good	No	Ag, DWW, Other		
09_11, 09_12, 09_13, 09_14, 09_15, 09_16, 09_2, 09_6, 09_8, 10_10, 10_5, 10_6,	IE_EA_G_003	Kilcullen	Groundwater	Not at risk	At risk	Good	Good	No	Ag, For, Other		

10_7, 12_12, 14_18, 14_9											
07_20, 07_6, 08_3, 09_1, 09_10, 09_11, 09_14, 09_15, 09_16, 09_17, 09_3, 09_4, 09_5, 09_6, 09_7, 09_9, 14_16	IE_EA_G_008	Dublin	Groundwater	Not at risk	Review	Good	Good	No			
08_2, 08_3, 08_6, 09_10, 09_17, 09_4	IE_EA_G_011	Swords	Groundwater	Not at risk	Not at risk	Good	Good	No			
07_19, 08_1, 08_2, 08_3, 08_4, 08_6, 09_10	IE_EA_G_014	Lusk-Bog of the Ring	Groundwater	Not at risk	Review	Good	Good	No			
09_11, 09_2, 09_6, 09_7, 14_16, 14_18	IE_EA_G_017	Curragh Gravels East	Groundwater	Not at risk	Not at risk	Good	Good	No			
07_19, 07_20, 09_10, 09_3	IE_EA_G_019	Moynalvy	Groundwater	Review	Not at risk	Good	Good	No			
09_14, 09_6, 09_7	IE_EA_G_027	Naas	Groundwater	Review	Not at risk	Good	Good	No			
07_19, 07_20, 08_3, 09_10	IE_EA_G_031	Dunshaughlin	Groundwater	Not at risk	Not at risk	Good	Good	No			
09_11, 12_12, 14_9	IE_EA_G_046	Gormanstown Gravels	Groundwater	Review	Not at risk	Good	Good	No			
09_12, 09_14	IE_EA_G_047	Blessington Gravels	Groundwater	Review	Not at risk	Good	Good	No			
09_13, 09_16, 09_8, 10_1, 10_10, 10_2, 10_3, 10_4, 10_5, 10_6, 10_7, 10_8, 10_9, 11_3, 12_11, 12_12, 12_13, 12_9	IE_EA_G_076	Wicklow	Groundwater	Review	Review	Good	Good	No			
09_14	IE_EA_G_078	Industrial Facility (P0325-01)	Groundwater	At risk	At risk	Poor	Poor	No	Ind		
09_14, 09_6	IE_EA_G_082	West Blessington Gravels	Groundwater	Review	Not at risk	Good	Good	No			
09_12, 09_14	IE_EA_G_085	GWDTE-Red Bog of Kildare (SAC000397)	Groundwater	Review	At risk	Good	Good	No	M+Q		

09_17	IE_EA_G_086	Industrial Facility (P0480-02)	Groundwater	At risk	At risk	Poor	Poor	No	Ind		
09_11, 09_2, 09_6	IE_EA_G_087	Waste Facility (W0014-01)	Groundwater	At risk	At risk	Poor	Poor	No	Other		
09_15	IE_EA_G_089	Historic Waste Facility (S22-02779)	Groundwater	Review	Not at risk	Good	Good	No			
09_16, 10_5	IE_EA_G_091	Industrial Facility (P0019-02)	Groundwater	At risk	At risk	Poor	Poor	No	Ind		
09_1, 09_15	IE_EA_G_092	Historic Waste Facility (S22-02168)	Groundwater	Review	Not at risk	Good	Good	No			
09_15	IE_EA_G_093	Historic Waste Facility (S22-02748)	Groundwater	Review	Not at risk	Good	Good	No			
07_20, 09_3	IE_EA_G_095	Summerhills Gravels	Groundwater	Not at risk	Not at risk	Good	Good	No			
09_11, 09_8, 10_10, 10_2, 10_3, 11_2, 11_3, 12_1, 12_10, 12_11, 12_12, 12_13, 12_14, 12_16, 12_3, 12_6, 12_7, 12_8, 12_9, 13_5, 14_10, 14_13, 14_19, 14_6, 14_9	IE_SE_G_011	Ballyglass	Groundwater	Review	At risk	Good	Good	No	Ag, Other		
07_6, 09_11, 09_7, 14_16, 14_17, 14_18, 14_3	IE_SE_G_077	Kildare	Groundwater	Not at risk	Not at risk	Good	Good	No			
09_11, 14_16, 14_18	IE_SE_G_106	GWDTE-Pollardstown Fen (SAC000396)	Groundwater	Not at risk	Not at risk	Good	Good	No			
09_11, 14_16, 14_18	IE_SE_G_133	Curragh Gravels West	Groundwater	Not at risk	Not at risk	Good	Good	No			
09_11, 12_12, 12_14, 12_16, 12_7, 12_8, 13_1, 13_3, 13_5, 14_10, 14_13, 14_18, 14_19, 14_2, 14_4, 14_6, 14_7, 14_9, 15_17	IE_SE_G_152	New Ross	Groundwater	Not at risk	Review	Good	Good	No			
09_11, 14_18, 14_9	IE_SE_G_167	Usk Gravels	Groundwater	Review	Not at risk	Good	Good	No			
09_11, 14_18	IE_SE_G_177	Historic Waste Facility (S22-02443)	Groundwater	Review	Not at risk	Good	Good	No			

Ag: Agriculture

DWW: Domestic Waste Water

For: Forestry

Hymo: Hydromorphology

Ind: Industry

M+Q: Mines and Quarries

Peat: Peat Drainage and Extraction

UR: Urban Run-off

UWW: Urban Waste Water

Note: Significant Pressures for Review water bodies have not been included as they will need to be confirmed as part of an Investigative Assessment.