3rd Cycle Draft
Colligan-Mahon Catchment Report
(HA 17)

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 Colligan-Mahon 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.
2nd 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.
2nd 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.
3rd 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.
3rd 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 Colligan-Mahon 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 Colligan-Mahon catchment includes the area drained by the Rivers Colligan and Mahon and all streams entering tidal water between Cheekpoint and East Point, Co. Waterford, draining a total area of 665km² (Figure 1). The largest urban centre in the catchment is Tramore. The other main urban centres in this catchment are Dungarvan and Dunmore East. The total population of the catchment is approximately 41,320 with a population density of 62 people per km².

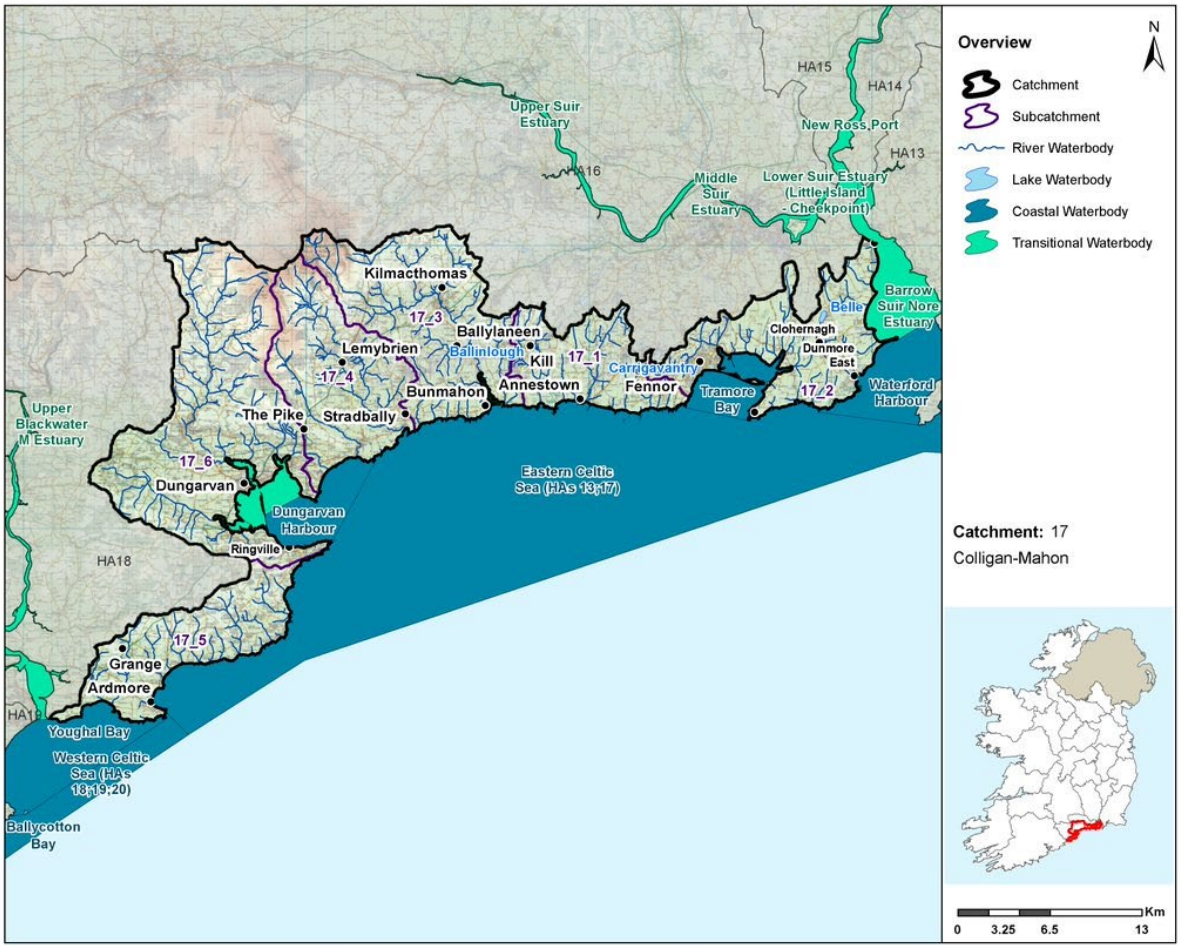


Figure 1: Overview of subcatchments in the Colligan-Mahon catchment

The Colligan-Mahon catchment is divided into six subcatchments (Figure 1) with 35 river waterbodies, two lakes, five transitional, seven coastal and 15 groundwater bodies. There are no coastal waterbodies in the catchment (Figure 2).

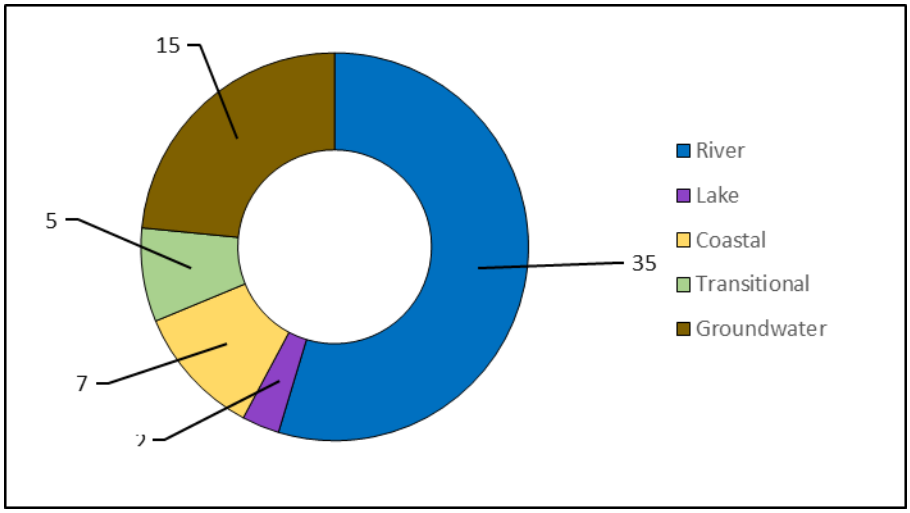


Figure 2: Waterbody types and numbers in the Colligan-Mahon Catchment.

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 six waterbodies achieving High Status, 20 achieving Good Status, eight achieving Moderate Status and four achieving Poor Status. There are 26 waterbodies that do not status assigned for Cycle 3. All waterbodies must achieve at least Good Ecological status.

- There are four river waterbodies (Colligan_020, Dalligan_010, Mahon_010 & Tay_010) and one coastal waterbody (Tramore Back Strand) that must achieve High Ecological Status (HES) in this catchment. These waterbodies are listed in Appendix 1. Of the five HES Environmental Objective waterbodies, three waterbodies are achieving High Status while Colligan_020 river waterbody is achieving Moderate Status and Tay_010 river waterbody is at Good Status.

- The overall number of waterbodies achieving High Status has increased from five to six between Cycle 2 and Cycle 3 (Figure 3 & Table 1). The number of waterbodies at Moderate Status has also increased, from four to eight. There were reductions in the number of waterbodies achieving Good Status, from 24 to 20 and the number of Poor Status waterbodies from five to four.

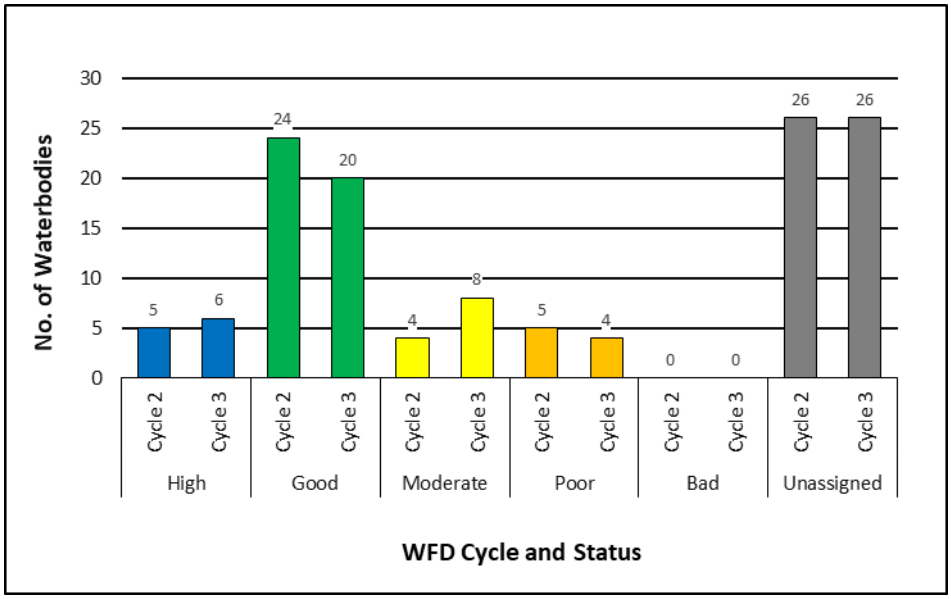


Figure 3: Waterbody Status Breakdown (All waterbodies)

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	3	4	0	0	0	0	2	2	0	0	**5**	**6**
Good	7	6	0	0	1	0	2	0	14	14	**24**	**20**
Moderate	1	3	1	1	2	2	0	2	0	0	**4**	**8**
Poor	4	2	0	0	0	1	0	0	1	1	**5**	**4**
Bad	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Un-assigned	20	20	1	1	2	2	3	3	0	0	**26**	**26**
Total	35	35	2	2	5	5	7	7	15	15	**64**	**64**

- 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 five (13%) waterbodies have improved in status, 28 (74%) waterbodies have remained unchanged and five (13%) waterbodies have declined in status.[1]
- Overall there is no change in the status of waterbodies across the catchment since the Cycle 2 assessment.

[1] Unassigned waterbodies have not been considered in this Status class change assessment and therefore are not represented in Figure 5. Percentage displayed in 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.

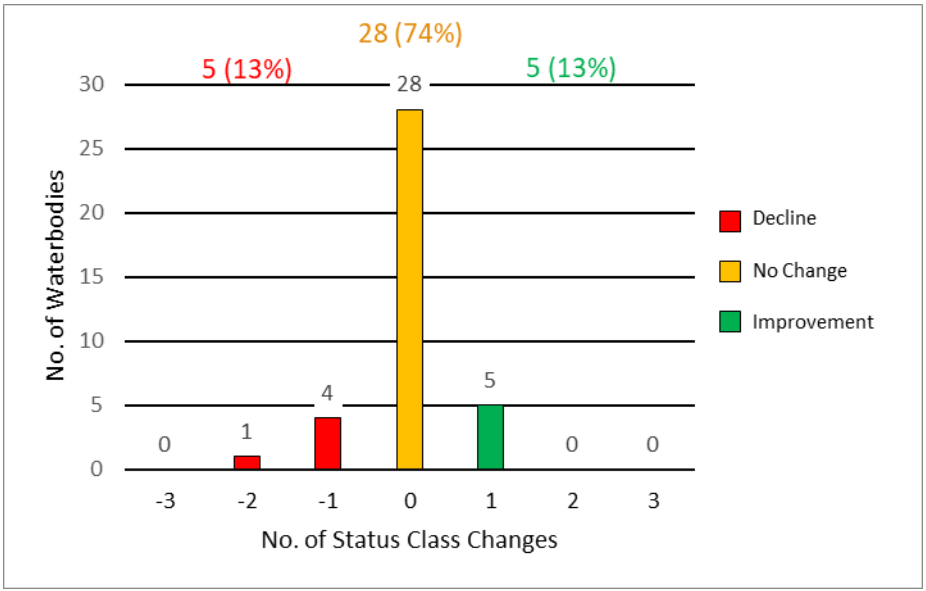


Figure 4: Status Class Changes between Cycle 2 and Cycle 3

2.2 Protected Areas

2.2.1 Drinking Water

- There are five 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*.

- One river waterbody in the catchment did not meet the DWPA objective in 2019:
  - Mahon_040 (IE_SE_17M010350) river waterbody is the source for the Kill/Ballylaneen (3100PUB1106) public supply which had MCPA and Fluroxypyr pesticide exceedances.

- For more detailed information please see the EPA reports on drinking water quality in 2019 for Public Supplies[2] and Private Supplies[3].

2.2.2 Bathing Waters

- There are six bathing waters in or directly adjacent to the catchment identified under the Bathing Water Regulations 2008.

- Five of the designated bathing waters had an Excellent classification in 2020, the remaining bathing water (Bunmahon Beach) had a Good classification.

- For more detailed information please see the EPA report on bathing water quality in 2020[4].

[2] https://www.epa.ie/publications/compliance--enforcement/drinking-water/annual-drinking-water-reports/drinking-water-quality-in-public-supplies-2019.php

[3] https://www.epa.ie/publications/compliance--enforcement/drinking-water/annual-drinking-water-reports/focus-on-private-water-supplies-2019.php

[4] https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/bathing-water-quality-in-ireland-2020-.php

2.2.3 Shellfish Areas

- There are two designated shellfish areas in the catchment impacting four different waterbodies.

- 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
Dungarvan Harbour	IEPA2_0045	Colligan Estuary	IE_SE_140_0100	✓	
		Dungarvan Harbour	IE_SE_140_0000	✓	
Waterford Harbour (Cheekpoint/Arthurstown /Creadan)	IEPA2_0056	Barrow Suir Nore Estuary	IE_SE_100_0100	✓	
		Waterford Harbour	IE_SE_100_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.

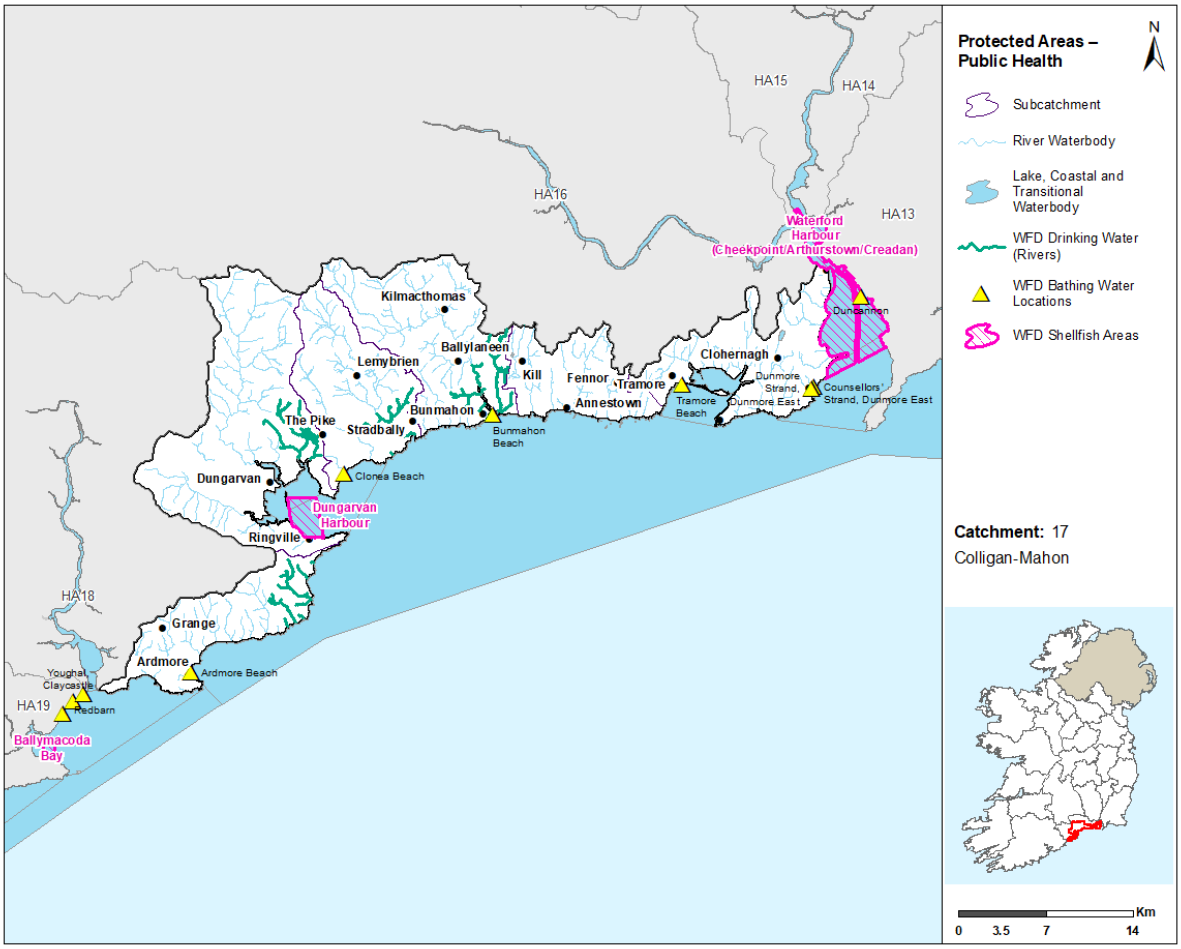


Figure 5: Protected Areas – Public Health

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 seven 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.[5]

Table 3: Natura 2000 Network Assessment Summary

Water Body Type	Total No.	Meeting the Requirements	Did not meet the Requirements	Unknown*
Rivers	2	0	0	2
Transitional & Coastal	5	2	3	0

**As the waterbody status was unassigned.*

- There are no river waterbodies with FWPM habitats in the catchment.

- There are no groundwater bodies delineated and assessed as Groundwater Dependent Terrestrial Ecosystems for this catchment.

- Water dependent SACs/ SPAs in the catchment are illustrated in Figure 6.

[5] https://www.catchments.ie/download/catchments-assessments-protected-areas-supporting-documents/

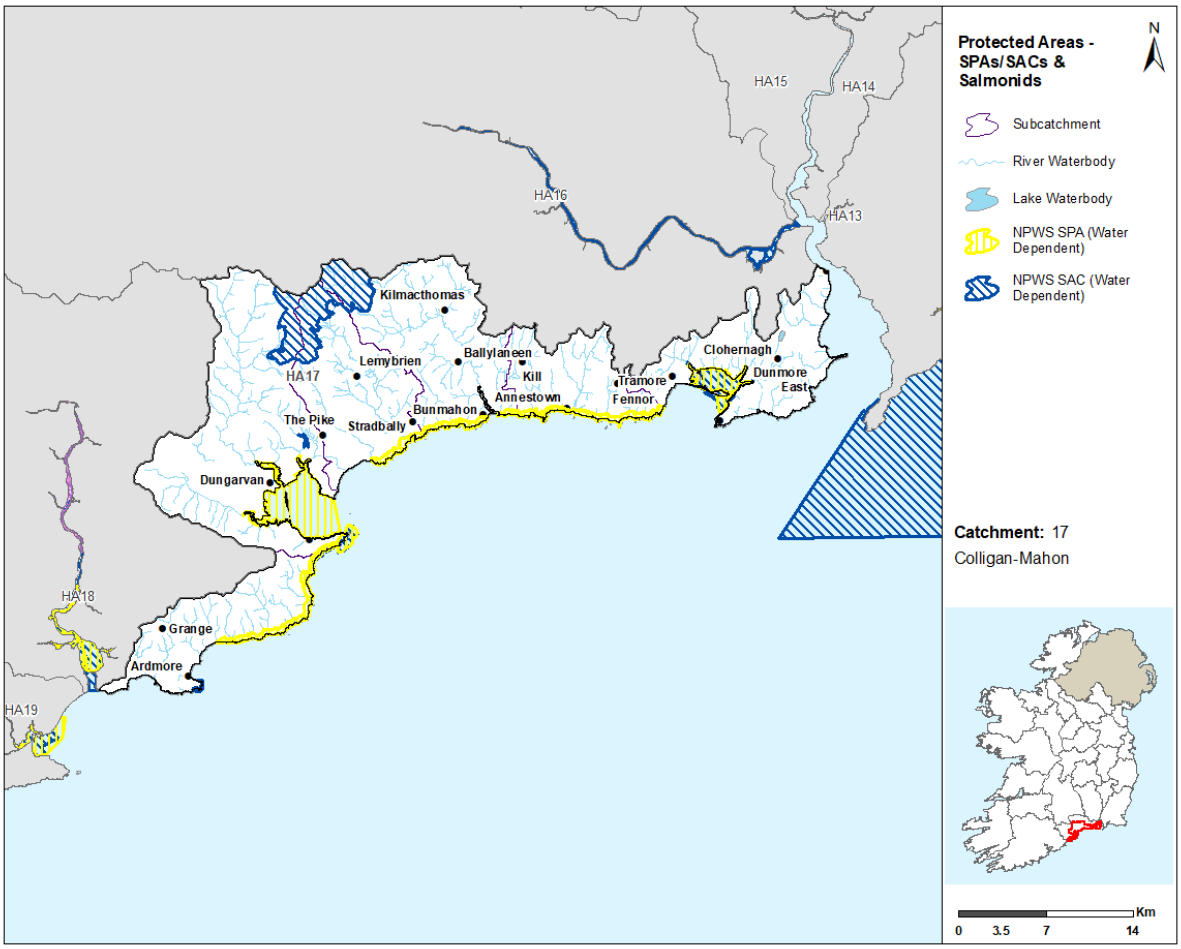


Figure 6: Water Dependent SPAs / SACs

2.2.5 Nutrient Sensitive Areas

- The EPA carried out a review of Nutrient Sensitive Areas (NSAs) 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 is one NSA in the catchment and these are downstream of one urban wastewater agglomeration (Table 4).

- NSA objectives are not being met in the NSA 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	
Colligan Estuary	Dungarvan	D0017-01	Colligan Estuary	IE_SE_140_0100		✓	Secondary Treatment in Place

2.3 Heavily Modified Waterbodies

- Based on the 1st and 2nd RBMPs there are currently no designated heavily modified water bodies (HMWB) in the catchment. 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 no artificial waterbodies (AWBs) in the Colligan – Mahon catchment.

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 64 waterbodies in the Colligan - Mahon Catchment and 18 (28%) of these are currently *At Risk*, 24 (38%) in *Review* and 22 (34%) are *Not At Risk*.

3.2 Surface Waters

- For the 35 river waterbodies, eight (23%) are *At Risk*, 17 (49%) are in *Review* and 10 (29%) are *Not At Risk*.

- Of the two lake waterbodies, one (50%) is *At Risk* (Belle lake waterbody) and one (50%) is in Review.

- Of the five transitional waterbodies, three (60%) are *At Risk* (Barrow Suir Nore Estuary, Colligan Estuary & Lower Blackwater M Estuary / Youghal Harbour) and two (40%) are in Review and.

- Of the seven coastal waterbodies, two (29%) are *At Risk* (Waterford Harbour & Youghal Bay) and five (71%) are Not At Risk.

- The largest proportion of *At Risk* waterbodies are found in rivers, accounting for eight (44%) of 18 *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 an increase in three *At Risk* waterbodies, an increase of three *Not At Risk* waterbodies between Cycle 2 and Cycle 3. This is reflected by a decrease of six *Review* waterbodies.

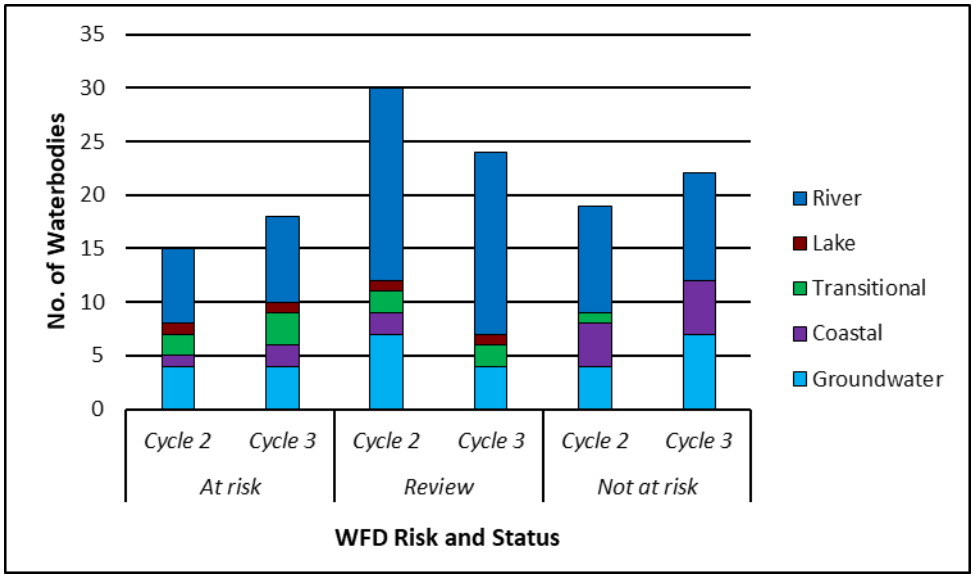


Figure 7: Number of waterbodies in each risk category

- 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.

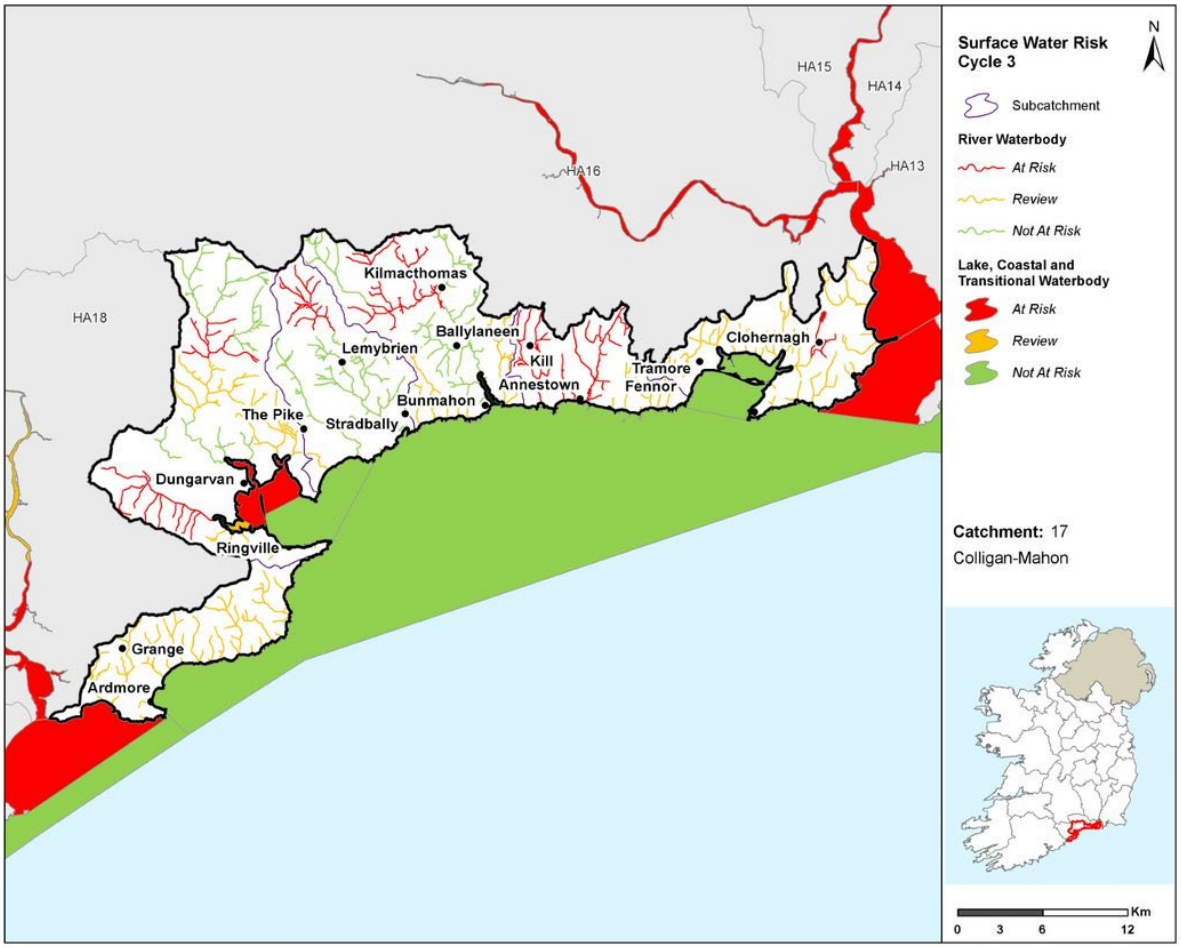


Figure 8: Surface Water Risk Cycle 3

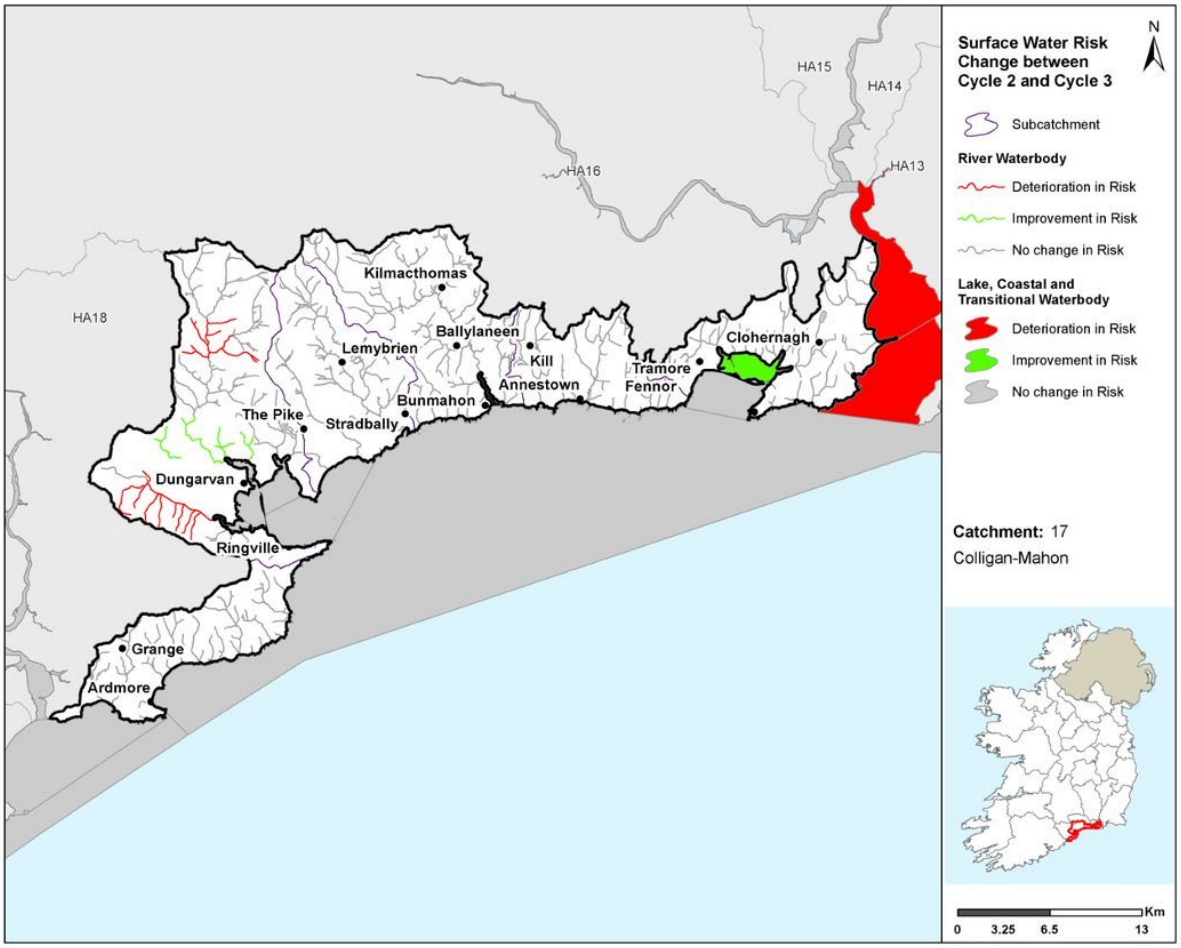


Figure 9: Surface Water Risk Change between Cycle 2 and Cycle 3

3.3 Groundwater

- For the 15 groundwater bodies, four (27%) are *At Risk*, four (27%) are in *Review* and seven (47%) are *Not At Risk.* Tramore, Waste Facility (W0032-02), Cappoquin Kiltorcan & Glenville are the groundwater bodies At Risk in Cycle 3.

- In Cycle 2 there were also four groundwater bodies (Tramore, Waste Facility (W0032-02), Cappoquin Kiltorcan &Lismore) *At Risk*, 16 in *Review* and 13 *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.

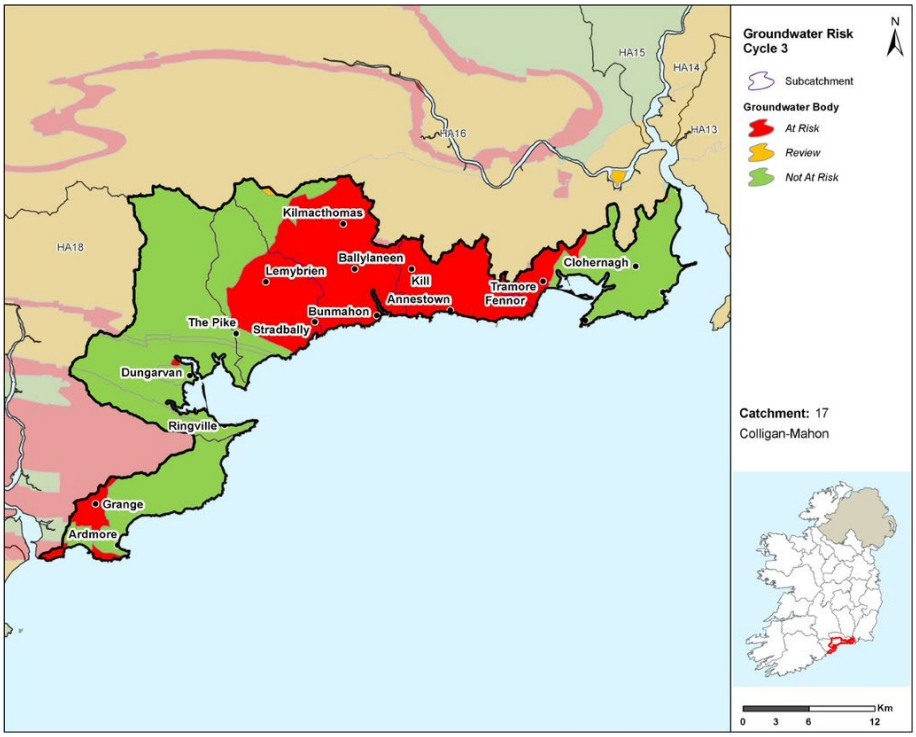


Figure 10: Cycle 3 Groundwater Body Risk

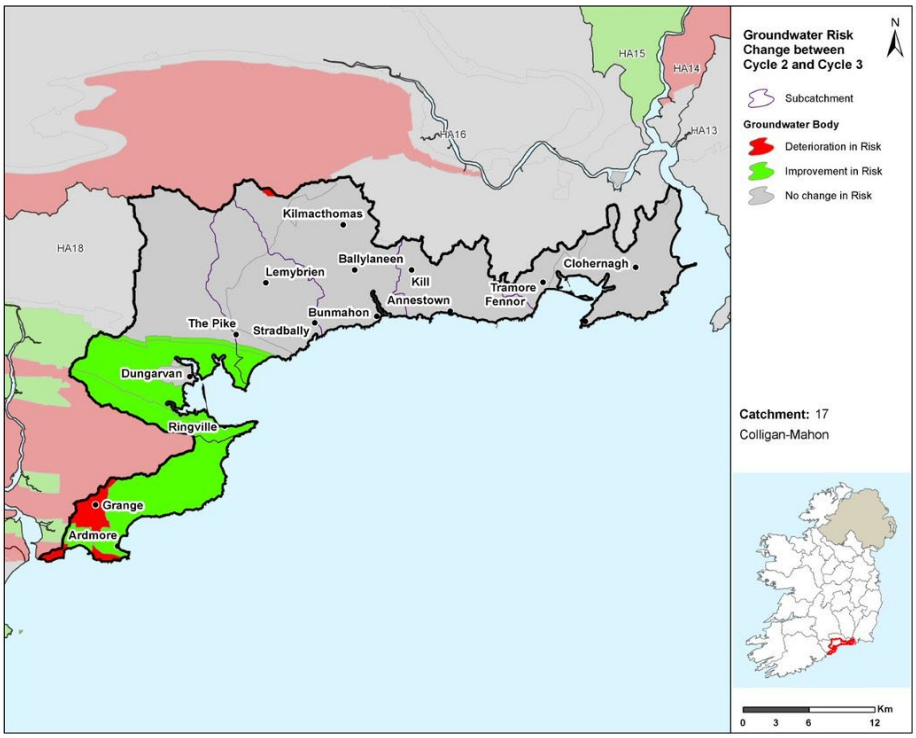


Figure 11: Groundwater Body Risk Change between Cycle 2 & Cycle 3

3.4 Heavily Modified Waterbodies

- Based on the 1st and 2nd RBMPs there are currently no designated heavily modified water bodies (HMWB) in the catchment. 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. 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

- There are no artificial waterbodies (AWBs) in the Colligan – Mahon Catchment.

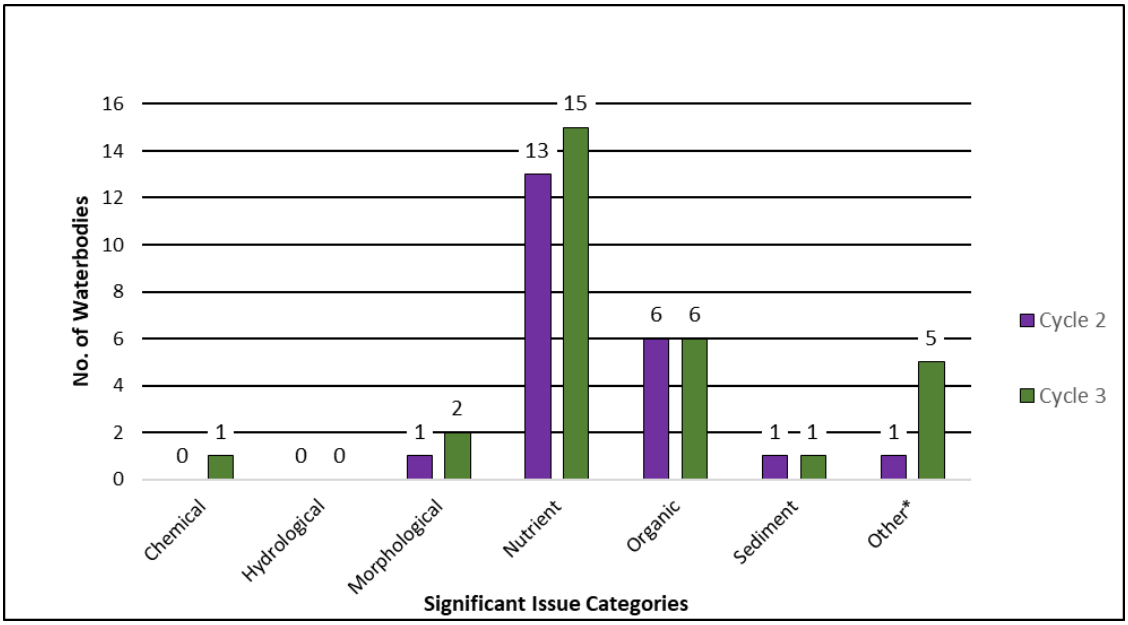
4 Significant Issues in *At Risk* Waterbodies

4.1 All Waterbodies

- Excess nutrients remain the most prevalent issue in the Colligan-Mahon Catchment (Figure 12) impacting 15 waterbodies in Cycle 3. Organic pollution is impacting six waterbodies, morphological impacts and sediment are affecting two waterbodies (Tay_010 & Dunhill_010), sediment is impacting one waterbody (Brickey_020) and chemical pollution is also impacting one waterbody (Glenville groundwater body). Microbiological pollution is impacting the Brickey_010 river waterbody. There are unknown impacts in the Colligan_020 river waterbody and Tramore groundwater body. Diminution of quality of associated surface waters for chemical reasons has been attributed Tramore, Cappoquin Kiltorcan and Waste Facility (W0032-02) groundwater bodies.
    - For rivers, the main significant issues are nutrient pollution (6), organic pollution (4), morphological impacts (2), sediment (1), microbiological pollution (1) and unknown impacts (1).
    - Nutrient pollution is the significant issue in the only *At Risk* lake waterbody (Belle) in the catchment.
    - For transitional waterbodies the significant issues are nutrient (3) and organic pollution (1).
    - For coastal waterbodies the significant issues are nutrient (2) and organic pollution (1).
    - Nutrient pollution is the issue in three of the four *At Risk* groundwater bodies. The impact in the Glenville groundwater body is chemical pollution.

- Between Cycle 2 and Cycle 3 the number of waterbodies with nutrients issues have increased by two from 13 to 15. The number of waterbodies impacted by morphological impacts has increased one to two. The number of waterbodies in the 'other' category has increased by four from one to five, due to microbiological pollution identified in Brickey_010 and additional unknown impacts or diminution of quality of associated surface waters for chemical reasons as explained above.

- The numbers of waterbodies with organic pollution and sediment issues have remained at six and one, respectively, between Cycle 2 and Cycle 3.



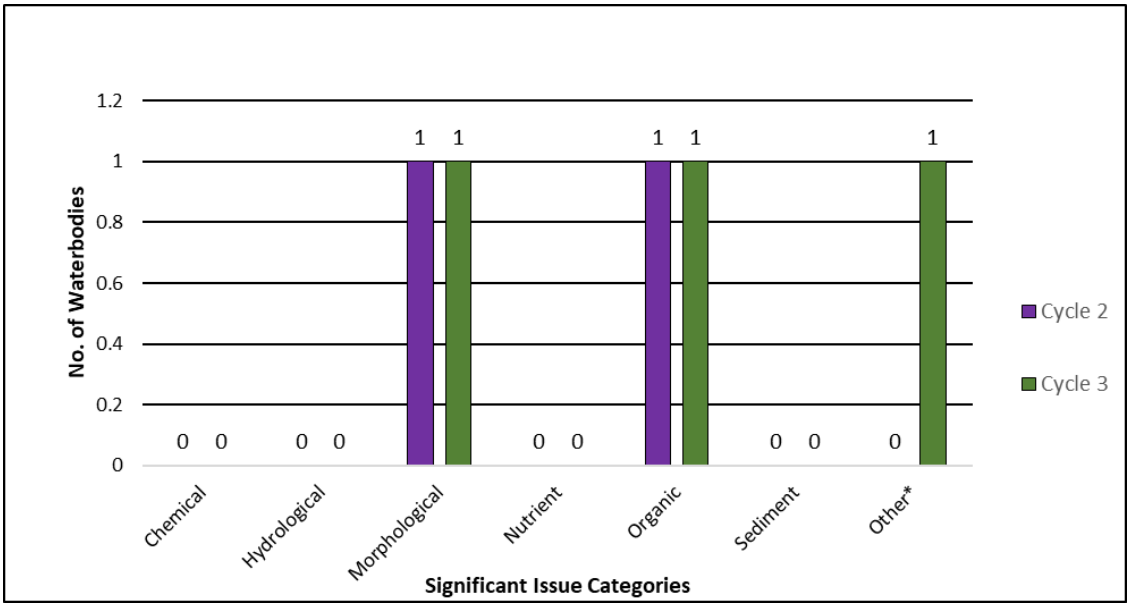
*Other - Acidification, saline intrusion, elevated temperature, litter, microbiological pollution and unknown impacts have all been grouped into the "Other" issues category for the purpose of this report

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

4.2 High Status Objective Waterbodies

- In Cycle 3 there are two High Status Objective waterbodies currently At Risk. Morphological issues and organic pollution are both impacting on the Tay_010 river waterbody, while the issue in Colligan_020 is unknown. (Figure 13).

- Between Cycle 2 and Cycle 3 the number of waterbodies with morphological and organic issues have remained at one. The additional waterbody in the other category is due to the Glenville groundwater being At Risk in Cycle 3 with unknown impacts.



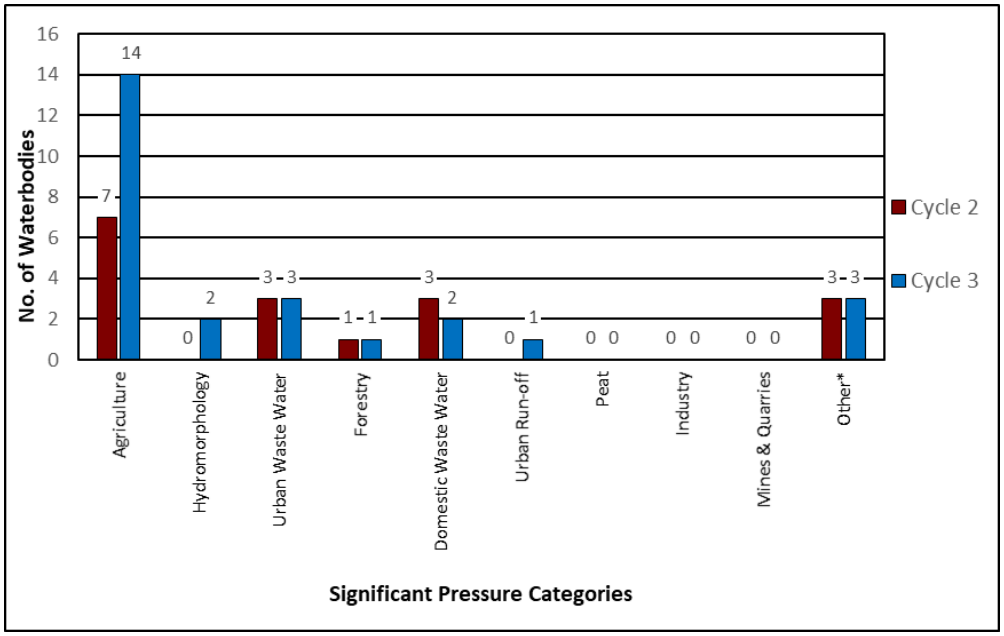
*Other - Acidification, saline intrusion, elevated temperature, litter, microbiological pollution and unknown impacts have all been grouped into the "Other" issues category for the purpose of this report

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 is agriculture, followed by urban waste water, domestic waste water, other (two waterbodies with unknown anthropogenic pressures and one with pressure from Dungarvan waste disposal), hydromorphology, forestry and peat.
- When comparing Cycle 2 and Cycle 3 the biggest change is an increase of seven waterbodies where agriculture is a significant pressure from seven waterbodies in Cycle 2 to 14 waterbodies in Cycle 3.
- Hydromorphological pressures and urban run-off are now considered significant in two and one waterbodies respectively where they were not in Cycle 2. Domestic waste water issues are impacting one less waterbody in Cycle 3.
- The increase in hydromorphology significant pressures is likely to be associated with more detailed assessment by the EPA based on the recently developed Morphological Quality Index tool and associated increasing awareness of hydromorphology rather than new significant hydromorphology pressures since Cycle 2.



*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 six river waterbodies, one lake waterbody (Belle), two transitional waterbodies (Lower Blackwater M Estuary / Youghal Harbour & Barrow Suir Nore Estuary), two coastal waterbodies (Youghal Bay & Waterford Harbour) and three groundwater bodies (Glenville, Cappoquin Kiltorcan & Tramore) in Cycle 3.
  The issues related to farming in this catchment are a combination of phosphorus loss to surface waters from, for example, direct discharges; or runoff from yards, roadways or other compacted surfaces, or runoff from poorly draining soils as well as nitrates from fertilizers and animal waste, for example, generally being transported to surface waters via sub-surface pathways.

5.1.1.2 Urban waste water

- Urban waste water agglomerations have been identified as a significant pressure in three *At Risk* river waterbodies (.

- Table 5). Apart from the Dungarvan agglomeration, none of the agglomerations identified as significant pressures are scheduled for upgrades under Irish Water's Capital Investment Programme (2020-2024). However, the Kilmacthomas agglomeration was upgraded in 2016.

Table 5: 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 CIP Completion Date[6]
Dungarvan D0017	Combined Sewer Overflows	Colligan Estuary	Poor	2024
Kill A0380	Agglomeration PE < 500	KILMURRIN COVE STREAM_010	Unassigned	N/A
Kilmacthomas D0275	Agglomeration PE of 1,001 to 2,000	MAHON_020	Moderate	N/A

  - In Cycle three urban waste water significant pressures are impacting the same waterbodies that were deemed to be impacted in Cycle 2.

5.1.1.3 Other significant pressures

- *Waste - EPA Licensed Activity*
  The significant pressure affecting Waste Facility (W0032-02) (IE_SE_G_178) groundwater body is the Dungarvan Waste Disposal Site (W0032-02), which is causing nutrient issues and diminution of quality of associated surface waters for chemical reasons.

- *Unknown anthropogenic*
  The significant pressures impacting two river waterbodies (Colligan_020 river waterbody and Glenville groundwater body) and are unknown.

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

5.1.1.4 Domestic waste water

- Domestic waste water has been identified as a significant pressure in two river waterbodies (Brickey_010 & Dunhill_010). This is due to a concentration of domestic waste water treatment systems in close proximity to the waterbodies, some of which are in karstic areas. The significant issue is excess nutrients and organic matter entering surface waters, with microbiological pollution identified in Brickey_010 river waterbody. Furthermore, some of these locations are located on areas of high susceptibility to nitrate transport via sub surface pathways. Domestic waste water has also been identified as a significant pressure in one groundwater body (Tramore) where groundwater contribution of phosphate to surface waters was identified as a pressure.

5.1.1.5 Hydromorphology

- Hydromorphology is a significant pressure in two river waterbodies (Brickey_020 & Dunhill_010). Channelisation (straightening) and embankments have both been highlighted as hydromorphological sub-pressure impacting on the Brickey_020 which are deemed to be contributing to the sediment issues in the waterbody. There are a number of large impoundments constructed in the Dunhill_010 river waterbody causing significant hydromorphological damage by altering habitats due to morphological changes.

5.1.1.6 Forestry

- Forestry is a significant pressure in the Tay_011 river waterbody in Cycle 3. Multiple Forestry plantations of varying size have been identified throughout the subcatchment which are deemed to be altering habitat due to morphological changes in the river.

5.1.1.7 Urban run-off

- Diffuse urban pressures, caused by misconnections, leaking sewers and runoff from paved and unpaved areas, has been identified as a significant pressure in Waterford Harbour coastal waterbody. Urban Run-off from Dunmore East has been identified as a source of nutrients in this waterbody.

Figure 15 – Figure 17 illustrates the locations of waterbodies for the three most common pressures in order of prevalence (agriculture, urban waste water and domestic waste water) within the catchment in Cycle 3.

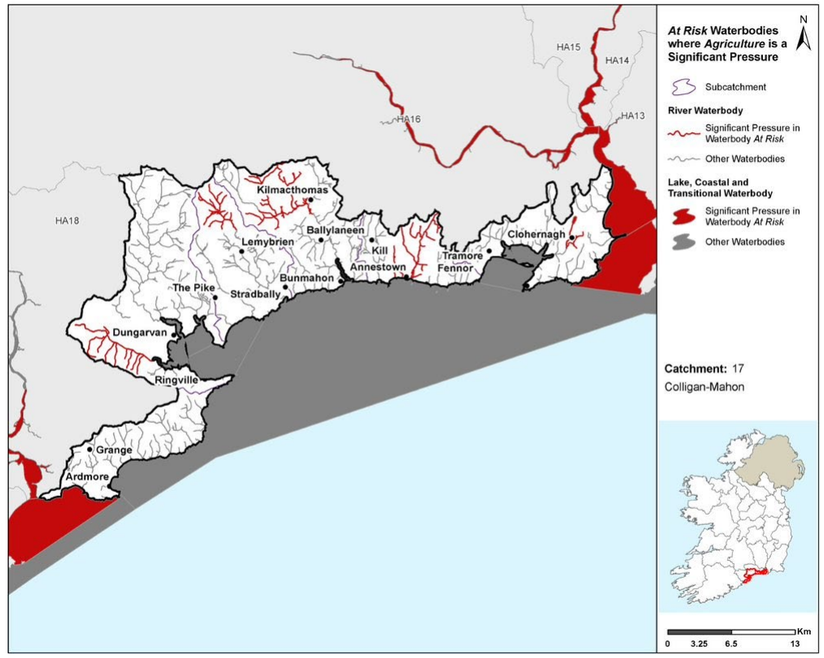


Figure 15: Locations of Waterbodies where Agriculture is a Significant Pressure

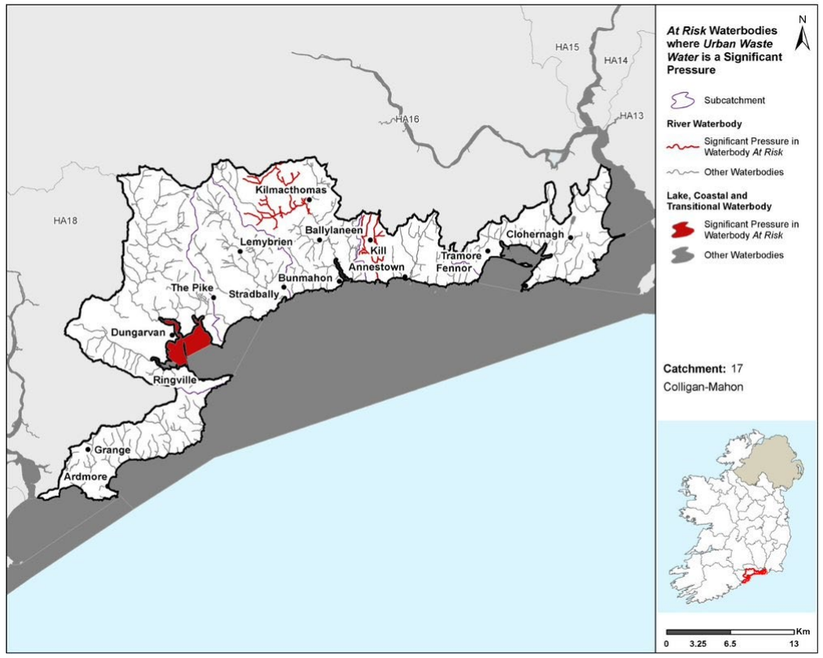


Figure 16: Locations of Waterbodies where Urban Waste Water is a Significant Pressure

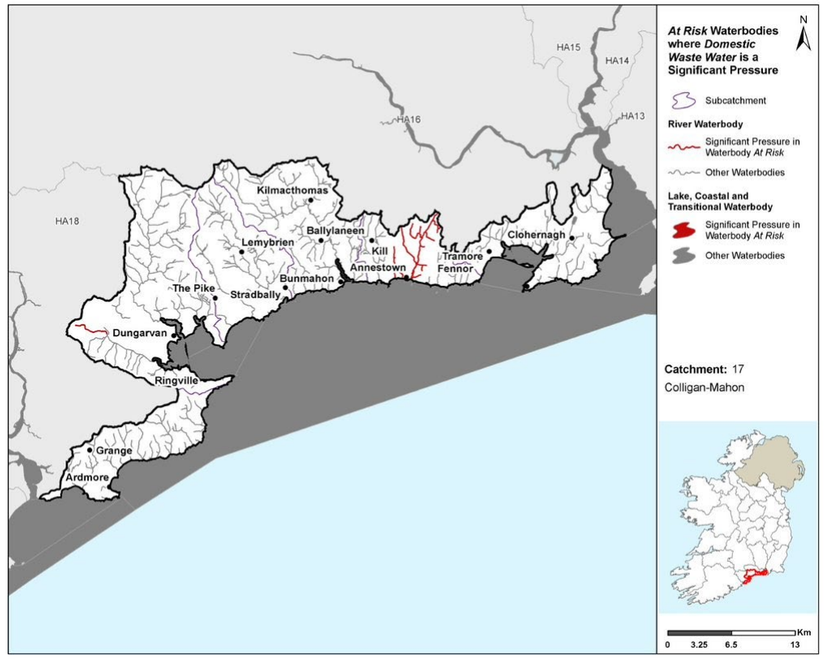
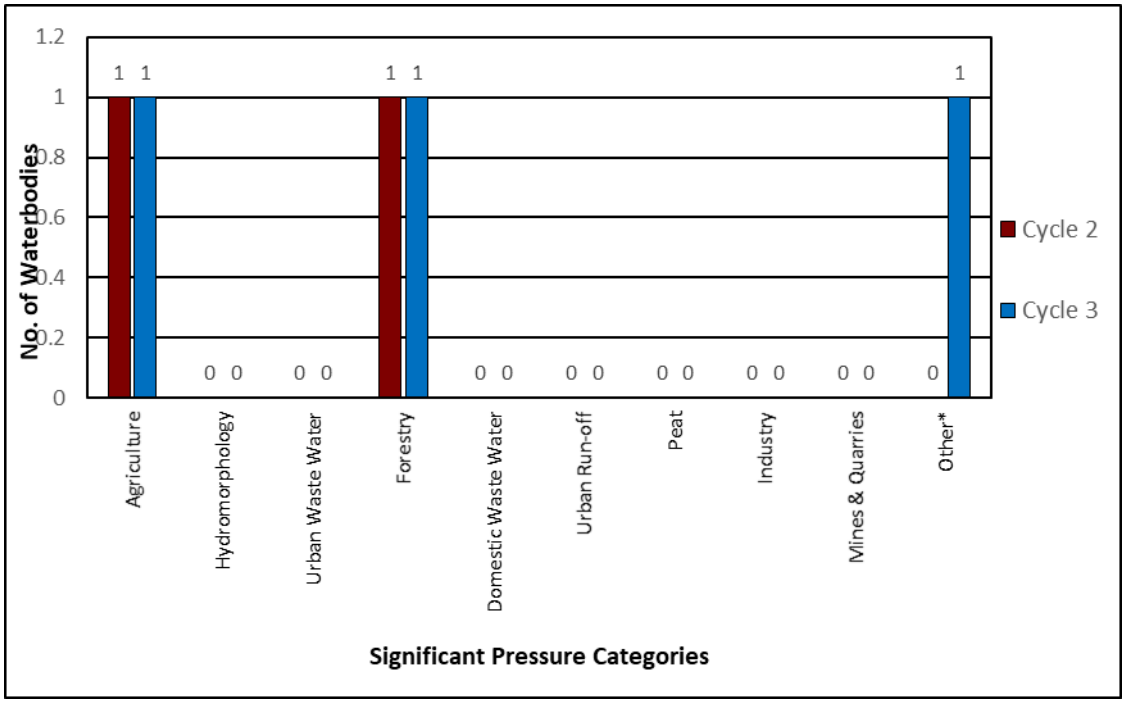


Figure 17: Locations of Waterbodies where Domestic Waste Water is a Significant Pressure

5.2 High Status Objective Waterbodies

- There are two waterbodies with High Status Objectives that are currently At Risk. Agriculture and forestry are both pressures in the Tay_010 river waterbody whereas the significant pressures in the Colligan_020 river waterbody is unknown.



*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 18: Significant Pressure *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 pasture land is responsible for 86% of the nitrogen load while discharges from urban waste water, land in pasture and forestry contribute 45%, 30% and 10% of the phosphorus loadings for the catchment respectively (Figure 17).

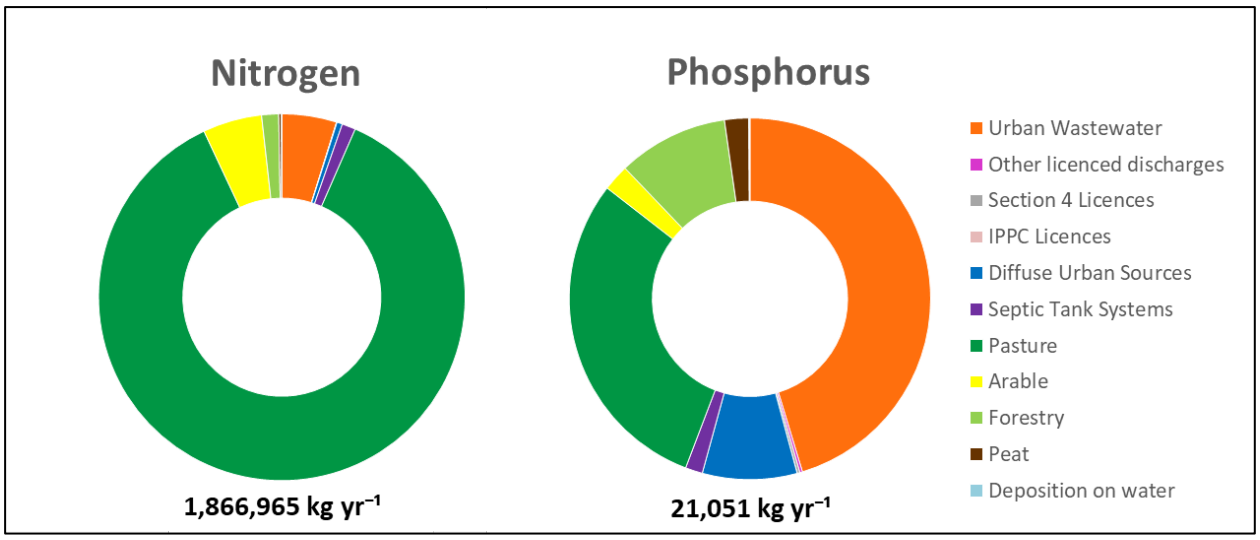


Figure 19: Estimated Proportions of N & P from Each Sector in the Colligan-Mahon Catchment

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. Nitrogen load reduction to meet TRAC WFD objectives are not required in the Colligan – Mahon Catchment.

7.2 Phosphorus / Sediment Load Reduction

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

Figure 20 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.

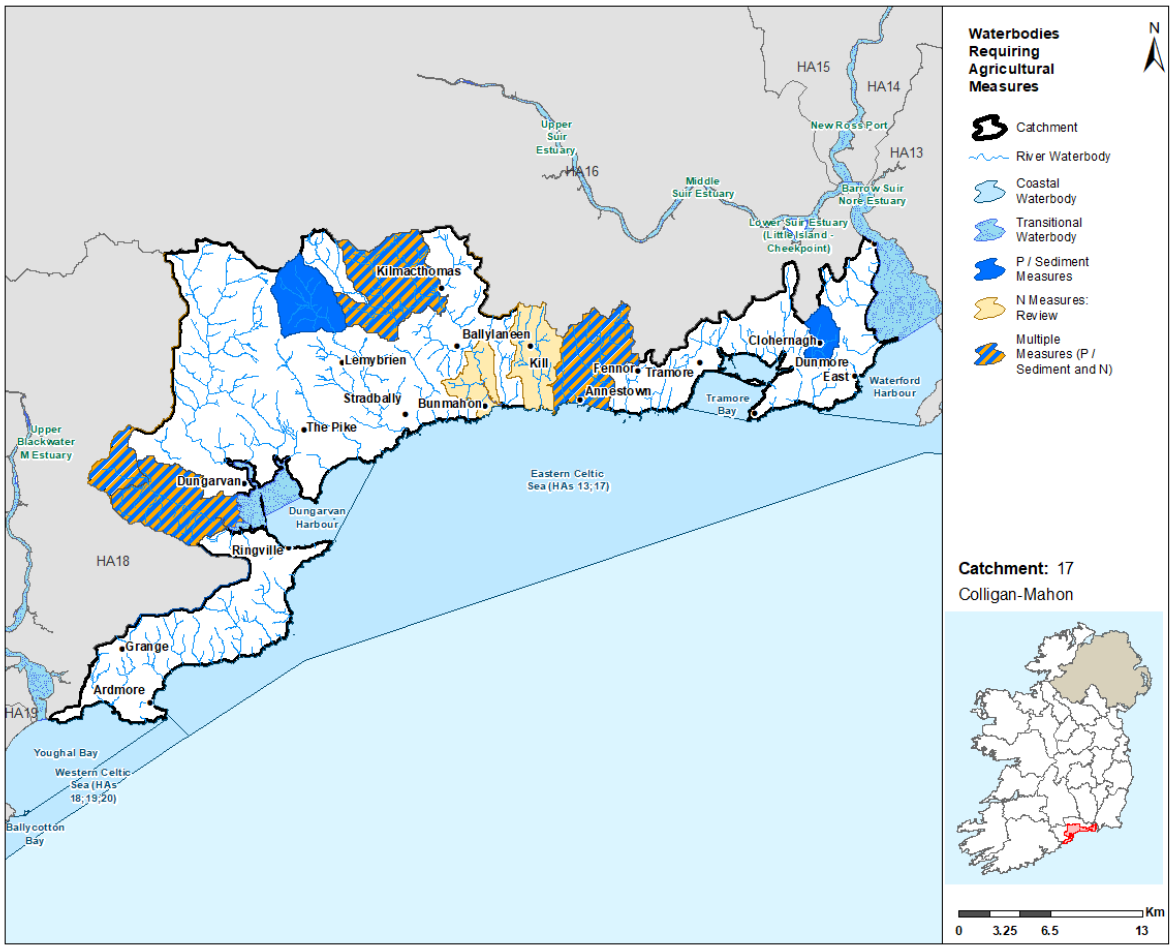


Figure 20: Waterbodies where Agricultural Measures should be Targeted

8 2nd Cycle Areas for Action

8.1 Area for Action Overview

- There were four Areas for Action, comprising of 12 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 6 and shown in

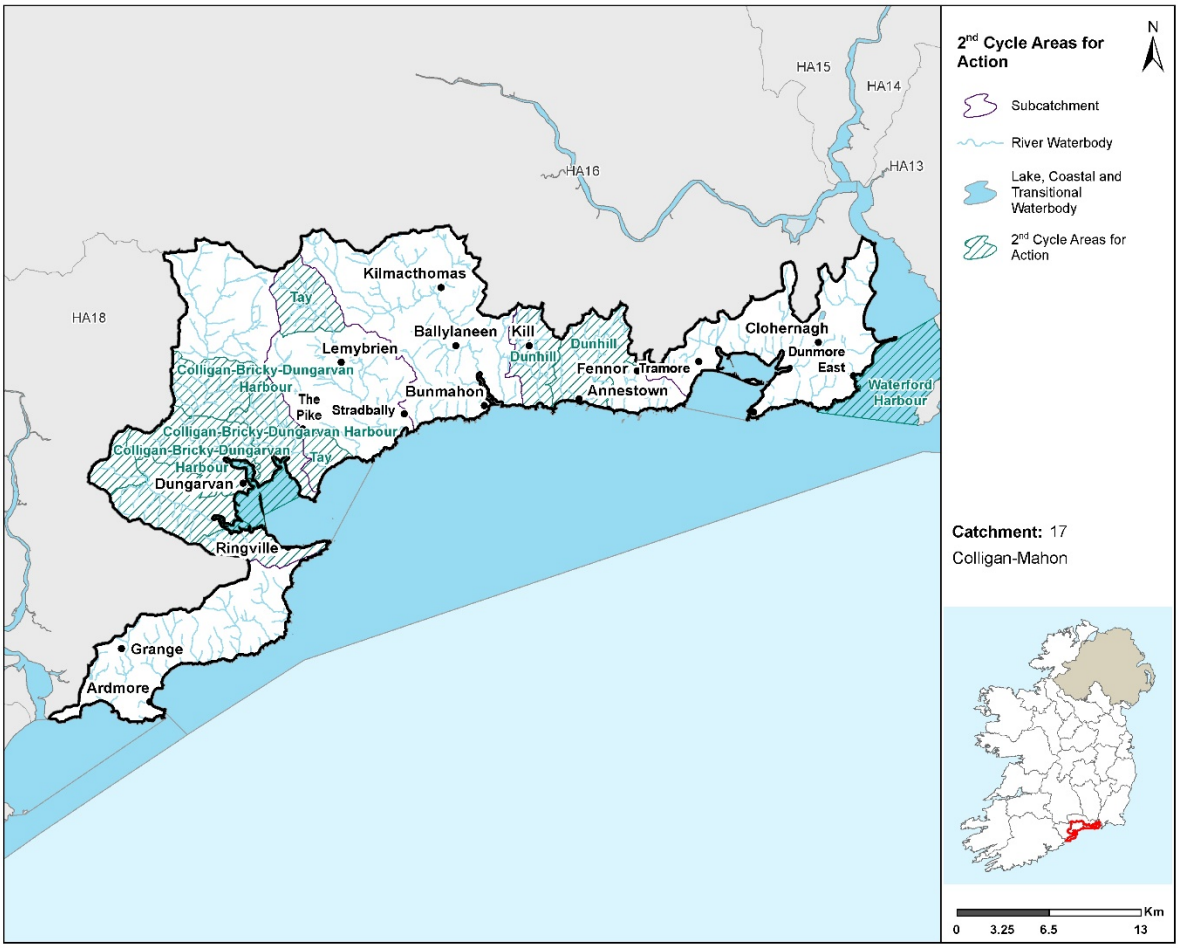


Figure 21. LAWPRO, in conjunction with local authorities and stakeholders from the South-eastern Regional Operational Committee, have been working in these areas since 2018.

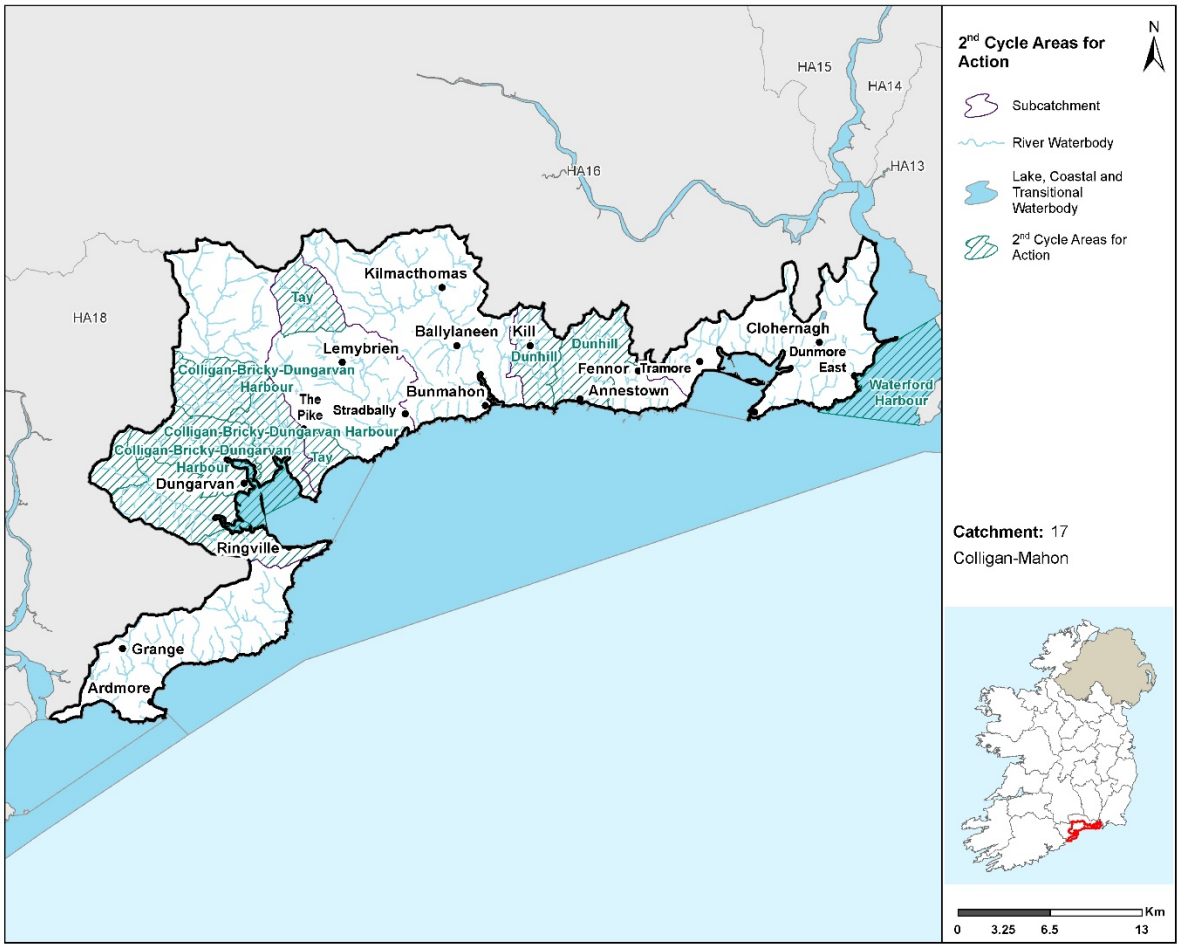


Figure 21: 2nd Cycle Areas for Action Locations

Table 6: 2nd Cycle Areas for Action

2nd Cycle Area for Action	Number of Waterbodies	Sub-catchment	Local Authority	Reason for Selection
Colligan-Bricky	8	17_6	Waterford	• One deteriorated water body that is discharging into Colligan estuary (Moderate Status). • One Poor Status water body that is discharging into Bricky estuary, an estuary where macroalgae is increasing. • Opportunity to build on existing knowledge of Inland Fisheries Ireland and Irish Water regarding two unlicensed discharges from pumping stations at Moate and Ballynagaul in Killongford_010 into Dungarvan Harbour shellfish area. • Important fisheries (sea trout, sea bass, oyster industry). • Important for birds (SPA). • Active CLAMs (coordinated local aquaculture management) group in Newry. • Important habitat for natural oyster beds.

2nd Cycle Area for Action	Number of Waterbodies	Sub-catchment	Local Authority	Reason for Selection
Tay	2	17_4	Waterford	• Discharges into popular bathing area (Stradbally) • Discharges into an important sea bass fishery • One deteriorated High Ecological Status objective water body. • One potential 'quick win'.
Dunhill	2	17_1	Waterford	• Building on work completed by Waterford County Council. • Discharges into green coast bathing area. • Potential to coordinate with recent work: Integrated Constructed Wetland development, local community work to naturalise stream and biodiversity study completed by Irish Water. • One deteriorated water body.
Waterford Harbour	1	13_3, 17_2	Waterford	

8.2 Status Change in 2nd Cycle Areas for Action

- For Cycle 3, of the 13 waterbodies in the 2nd Cycle Areas for Action, there are two waterbodies at Good Status (Colligan_040 & Tay_010), two waterbodies (Dunhill_010 & Waterford Harbour) at Moderate Status, two waterbodies (Brickey_010 river waterbody & Colligan Estuary) at Poor Status, and seven waterbodies where status has not been assigned.

- Overall there is no change in status of one 2nd cycle Areas for Action waterbodies across the catchment.[7]

- Of the six waterbodies within the 2nd Cycle Areas for Action which had status assigned, two (Brickey_010 & Tay_010) experienced no change in status between Cycle 2 and Cycle 3, two waterbodies (Colligan_040 & Dunhill_010) experienced an improvement and two waterbodies (Colligan Estuary & Waterford Harbour) were subject to deterioration in status (Figure 22). The two waterbody improvements were across Colligan-Brickey-Dungarvan and Dunhill Areas for Action. The waterbodies which experienced decline were in Colligan-Brickey-Dungarvan and Waterford Harbour Area for Action.

[7] 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.

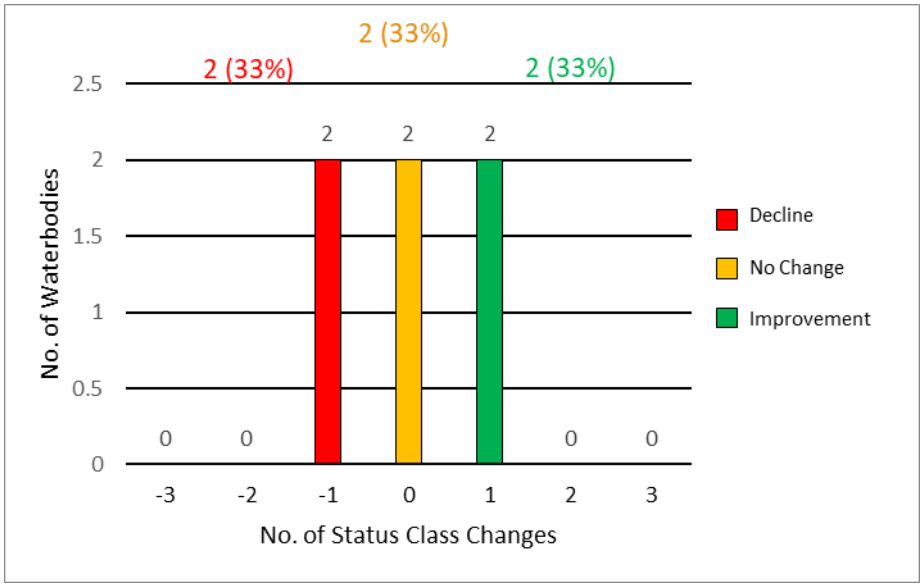


Figure 22: 2nd Cycle Area for Action Waterbody Status Class Changes between Cycle 2 and Cycle 3

8.3 Waterbody Risk in 2nd Cycle Areas for Action

- For the 13 waterbodies in the 2nd Cycle Areas for Action, seven (54%) of these are currently *At Risk* and five (38%) in *Review* and one (8%) is *Not At Risk*.

- For the 10 river waterbodies, five (50%) are *At Risk*, four (40%) are in *Review* and one (10%) is *Not At Risk.* Brickey_010, Brickey_020, Dunhill_010, Kilmurrin Cove Stream_010 & Tay_010 are the river waterbodies *At Risk*.

- For the two transitional waterbodies, one (50%) is *At Risk* and one (50%) is in *Review*. Colligan Estuary is the transitional waterbody *At Risk*.

- Waterford Harbour coastal waterbody is *At Risk*.

- Figure 23 gives an overview of the breakdown of risk across waterbody types for both Cycle 2 and Cycle 3 in 2nd Cycle Areas for Action.

- Overall there is a decrease from six to five *At Risk* waterbodies in 2nd Cycle Areas for Action between Cycle 2 and Cycle 3.

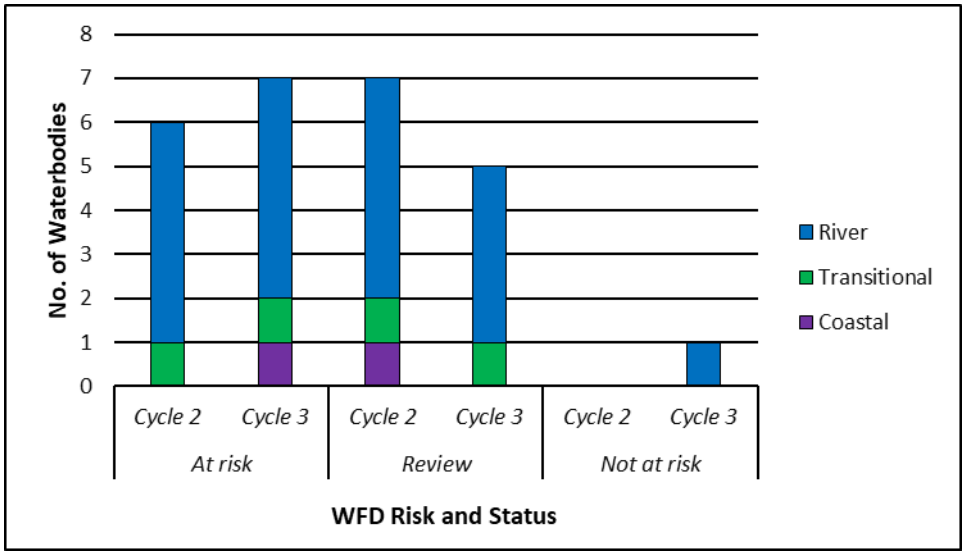
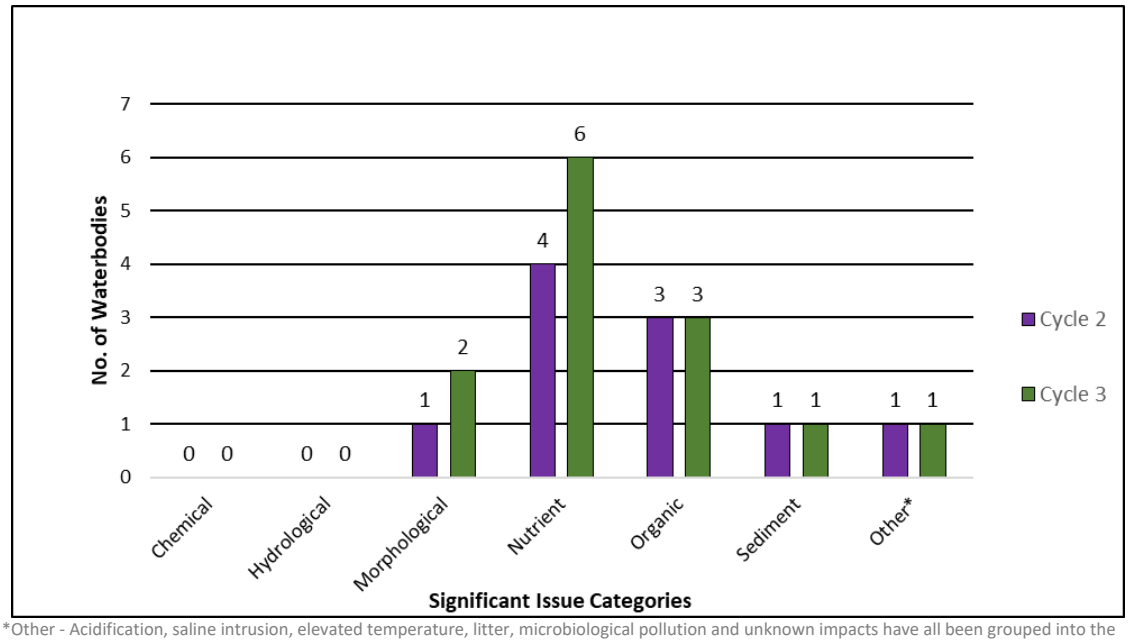


Figure 23: Number of waterbodies in each risk category in 2nd Cycle Areas for Action

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 is nutrient pollution impacting six waterbodies (Figure 24). This is followed by organic pollution which is impacting three waterbodies, morphological issues impacting two waterbodies and sediment and microbiological pollution (other) are each impacting one waterbody.

- The number of 2nd Cycle Areas for Action waterbodies associated with nutrient and morphological significant issues have increased from four to six and one to two respectively since Cycle 2.



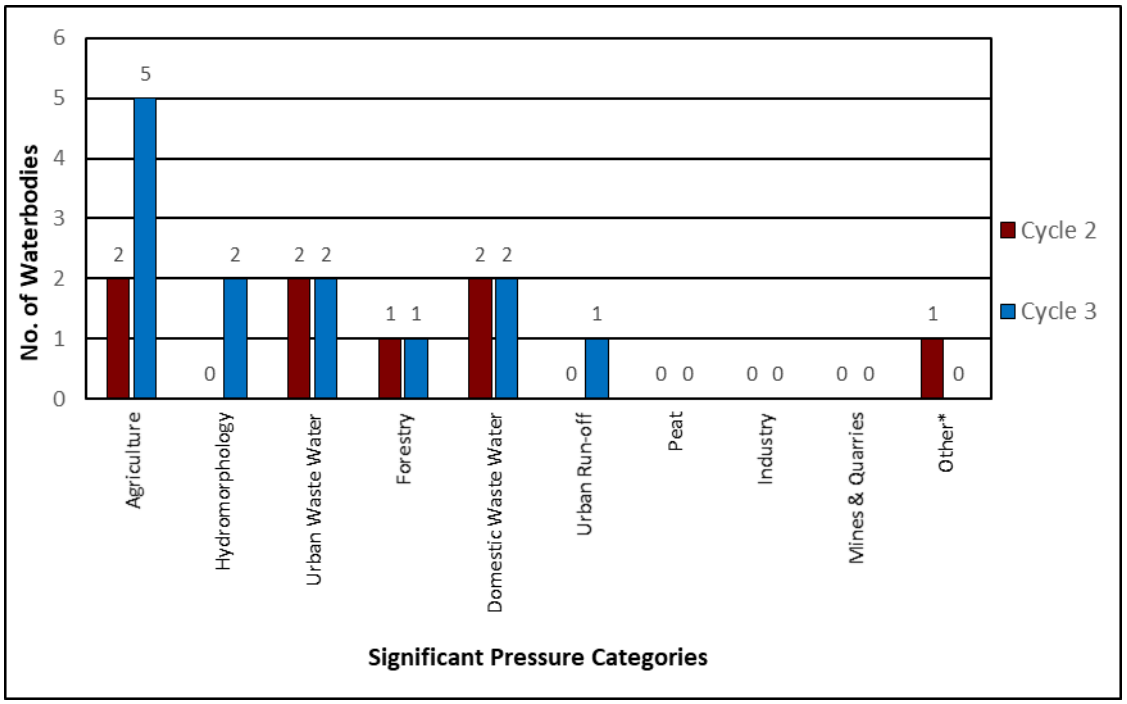
*Other - Acidification, saline intrusion, elevated temperature, litter, microbiological pollution and unknown impacts have all been grouped into the "Other" issues category for the purpose of this report

Figure 24: 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 - five waterbodies (Brickey_010, Brickey_020, Dunhill_010 & Tay_010 & Waterford Harbour) impacted in Cycle 3, an increase from two waterbodies in Cycle 3.
  - Hydromorphology – two waterbodies (Brickey_020 & Dunhill_010) are now deemed to be impacted in Cycle 3. There were no hydromorphological pressures identified in Cycle 2 in the 2nd Cycle Areas for Action.
  - Urban Waste Water - two waterbodies (Kilmurrin Cove Stream_010 & Colligan Estuary) remain impacted in Cycle 3.
  - Domestic Waste Water - two waterbodies (Brickey_010 & Dunhill_010) remain impacted in Cycle 3.
  - Forestry – one waterbody (Clodiagh (Portlaw)_010 & Rossadrehid Stream_010) remains impacted in Cycle 3.

- When comparing the significant pressures in the 2nd Cycle Areas for Action between Cycle 2 and 3 there has been an increase in the number of waterbodies impacted by both agricultural and hydromorphological pressures, from two to five and zero to two respectively.



*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 25: 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.

- The Recommended 3rd Cycle Areas for Action list will be included in the Draft River Basin Management Plan and will be finalised after the consultation period.

- There are five Areas for Action, comprising of 26 waterbodies, recommended for further characterisation and action in the catchment for the 3rd Cycle River Basin Management Plan. 10 of the 26 waterbodies in the 3rd Cycle Recommended Areas for Action are *At Risk*, seven are in *Review* and nine are *Not At Risk.* The five Recommended Areas for Action are all categorised as Areas for Restoration. LAWPRO are the proposed lead organisation in all five Recommended Areas for Action. The Areas for Action in the catchment are listed in Table 7 and shown in Figure 26. The reason for selecting each waterbody in a Recommended Areas for Action is provided in Appendix 3.

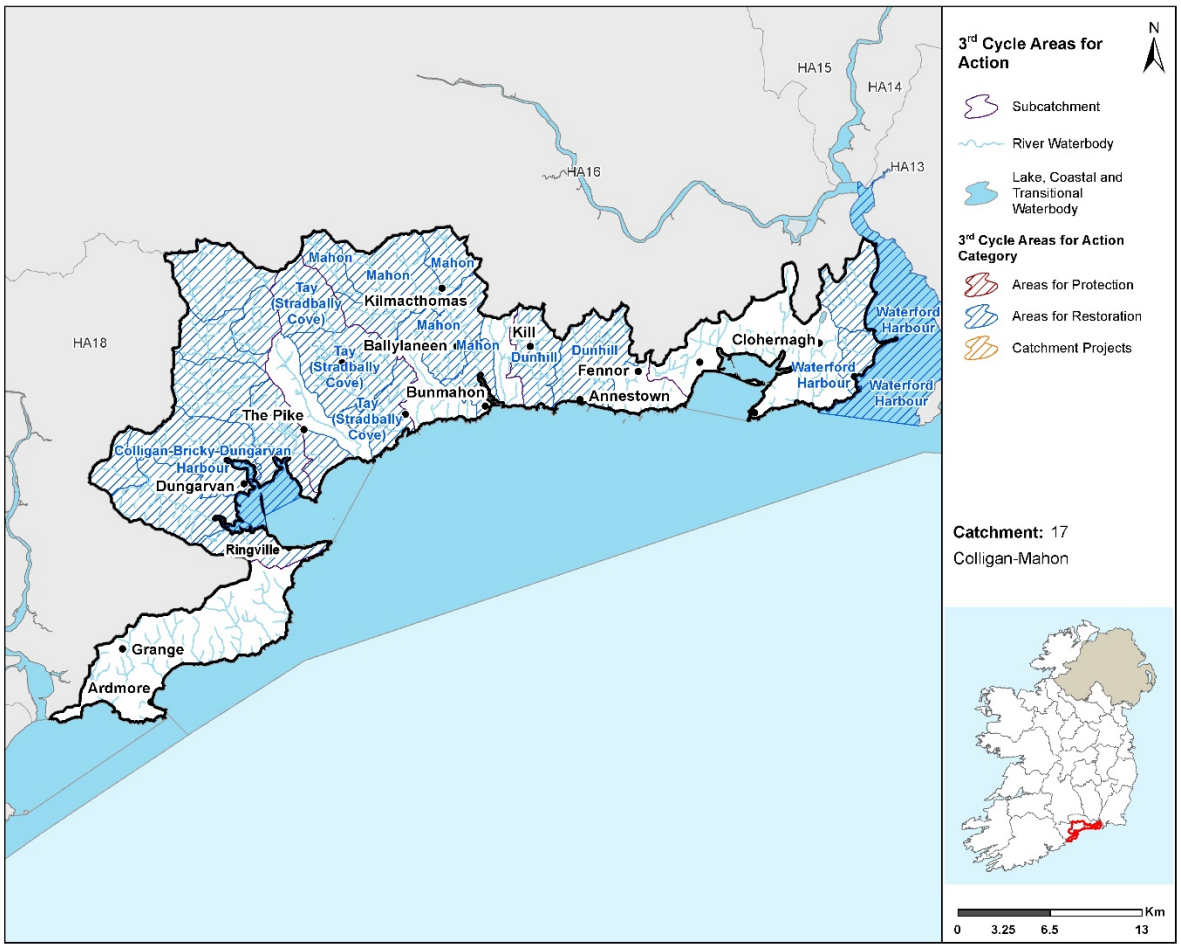


Figure 26: 3rd Cycle Recommended Areas for Action Locations

Table 7: 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
Colligan-Bricky-Dungarvan Harbour	12	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Dunhill	2	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Waterford Harbour	4	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Mahon	5	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Tay (Stradbally Cove)	3	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO

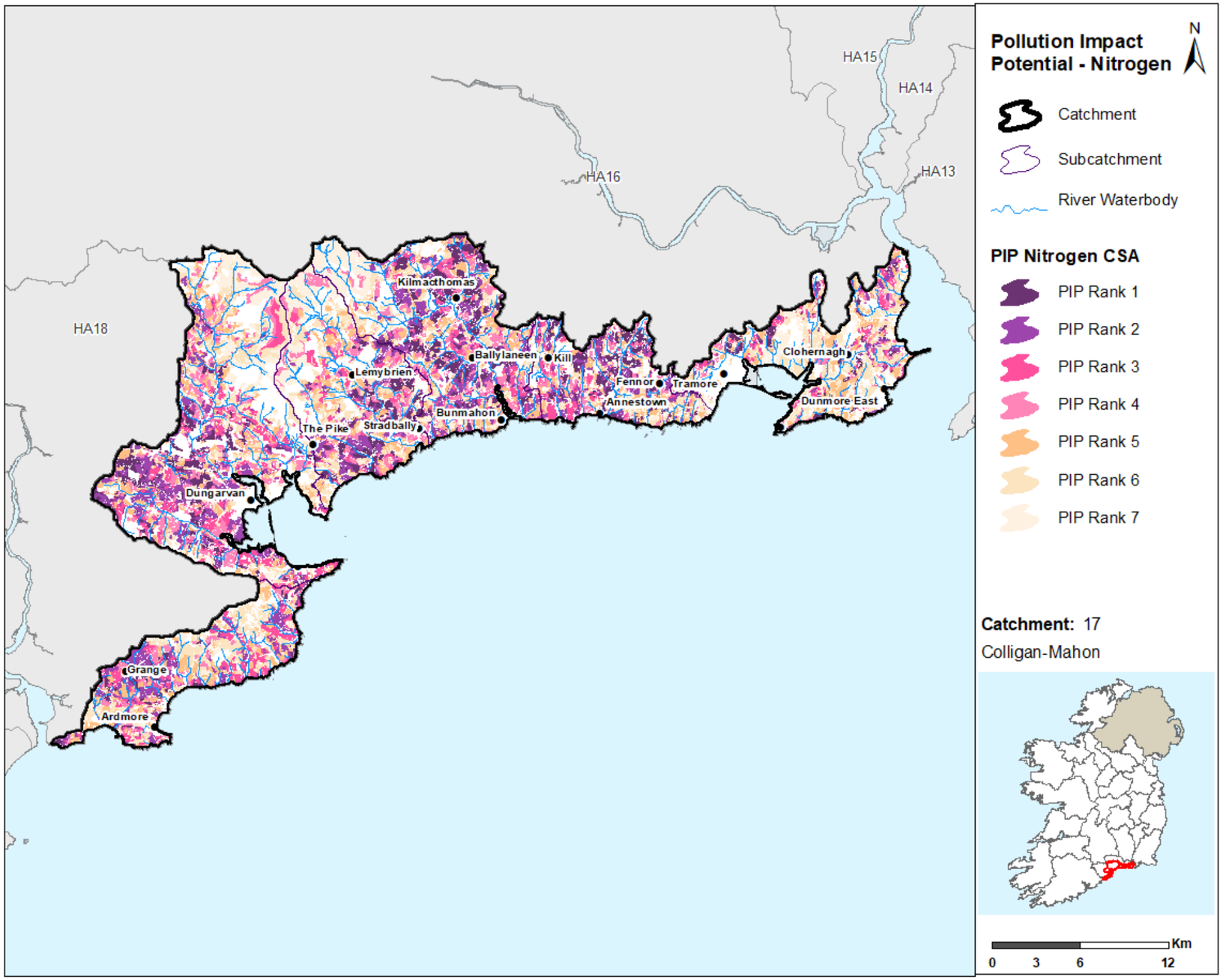
10 Catchment Summary

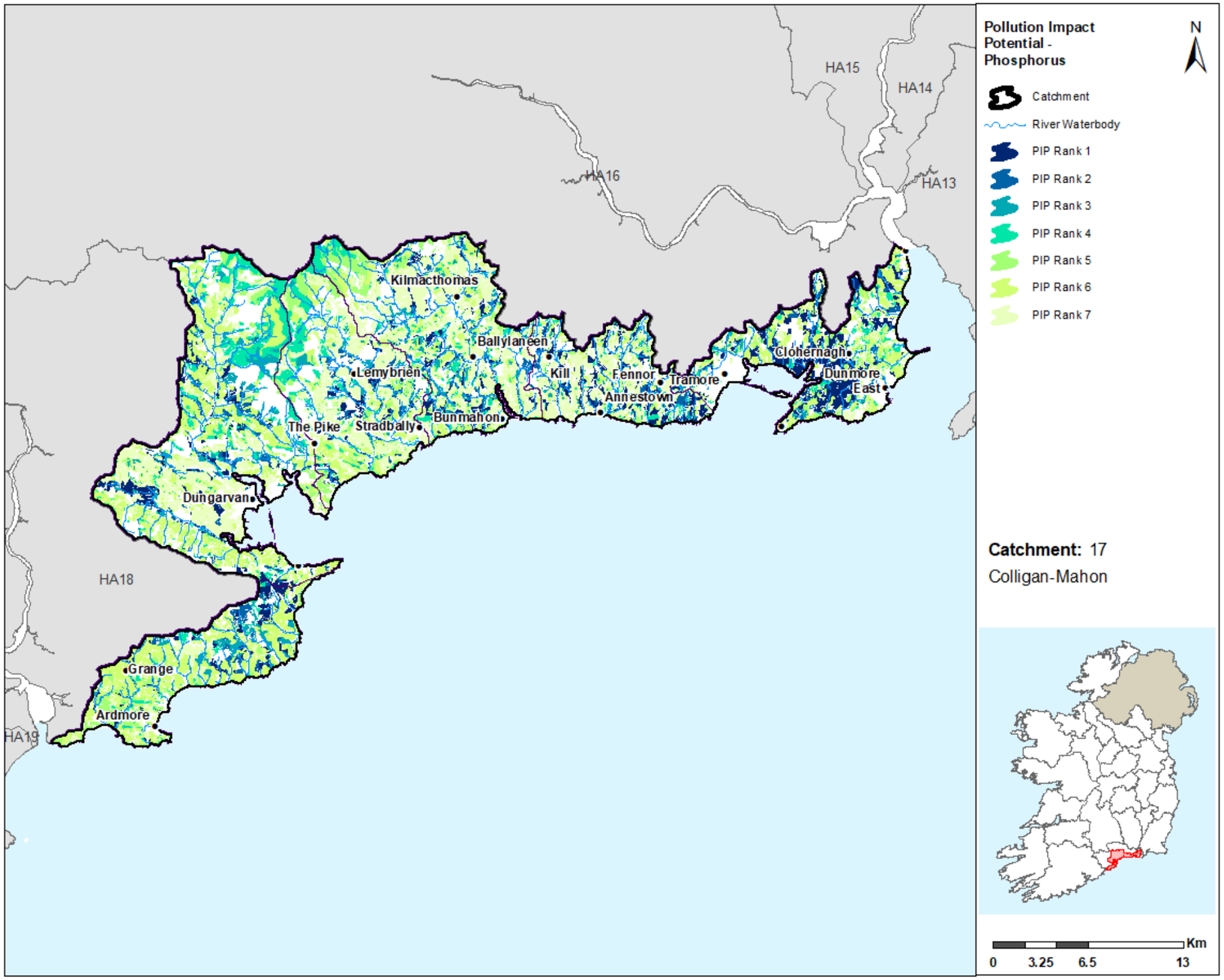
- Of the 35 river waterbodies, eight are *At Risk* of not meeting their WFD objectives.
- One out of two lake waterbodies are *At Risk* of not meeting their WFD objectives.
- Three out of five transitional waterbodies in the catchment are *At Risk* and impacted by eutrophication. Agriculture and waste water treatment are the significant pressures.
- Two out of seven coastal waterbodies are *At Risk* of not meeting their WFD objectives.
- Four out of 15 groundwater bodies are *At Risk.* .
- There has been an overall deterioration across the catchment with 18 waterbodies *At Risk* in Cycle 3 compared to 15 waterbodies *At Risk* in Cycle 2.
- The main significant issues are impacts from nutrient pollution, followed by organic pollution, morphological impacts, sediment and microbiological issues.
- The main significant pressures are agricultural pressures followed by urban waste water, domestic waste water and hydromorphological pressures.
- The main impact and pressure driving the change in risk between Cycle 2 and Cycle 3 are increases in waterbodies impacted by nutrient pollution particularly from agricultural sources.
- There was no overall change in the number of *At Risk* waterbodies in the 2nd Cycle Areas for Action since Cycle 2.
- There are five no. 3rd Cycle Recommended Areas for Action for Cycle 3. They comprise of 26 waterbodies with 10 waterbodies *At Risk*, seven in *Review* and nine *Not At Risk*.

Appendix 1
High ecological status objective waterbodies

Waterbody Name	Waterbody Type	Waterbody Code	Status 2013-2018
COLLIGAN_020	River	IE_SE_17C010150	Moderate
DALLIGAN_010	River	IE_SE_17D010300	High
MAHON_010	River	IE_SE_17M010100	High
TAY_010	River	IE_SE_17T010050	Good
Tramore Back Strand	Coastal	IE_SE_120_0000	High

Appendix 2
Pollution Impact Potential Mapping





Pollution Impact Potential - Phosphorus

N

- Catchment
- River Waterbody
- PIP Rank 1
- PIP Rank 2
- PIP Rank 3
- PIP Rank 4
- PIP Rank 5
- PIP Rank 6
- PIP Rank 7

Catchment: 17
Colligan-Mahon

Km
0 3.25 6.5 13

Appendix 3
Summary information on all waterbodies in the Colligan-Mahon 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)
17_6	IE_SE_17A010300	ARAGLIN (COLLIGAN)_010	River	Not at risk	Not at risk	Good	High	No		Colligan-Bricky-Dungarvan Harbour	Sub-catchment of LAWPRO: Existing PAA
17_5	IE_SE_17A050900	ADDRIGOOLE_010	River	Review	Review	Unassigned	Unassigned	No			
17_6	IE_SE_17B010050	BRICKEY_010	River	At risk	At risk	Poor	Poor	No	Ag, DWW	Colligan-Bricky-Dungarvan Harbour	LAWPRO: Existing PAA
17_6	IE_SE_17B010090	BRICKEY_020	River	Review	At risk	Unassigned	Unassigned	No	Ag, Hymo	Colligan-Bricky-Dungarvan Harbour	LAWPRO: Existing PAA
17_3	IE_SE_17B030100	BALLYVADEN_010	River	Review	Review	Unassigned	Unassigned	No			
17_5	IE_SE_17B200760	BALLYLANGADON_010	River	Review	Review	Unassigned	Unassigned	No			
17_2	IE_SE_17B290990	BALLYGUNNERMORE_010	River	Review	Review	Unassigned	Unassigned	No			
17_2	IE_SE_17B400790	BALLYMABIN_010	River	Review	Review	Unassigned	Unassigned	No			
17_6	IE_SE_17C010100	COLLIGAN_010	River	Not at risk	Not at risk	Good	Good	No		Colligan-Bricky-Dungarvan Harbour	LAWRPO: Sub-catchment of existing PAA
17_6	IE_SE_17C010150	COLLIGAN_020	River	Not at risk	At risk	High	Moderate	Yes	Other	Colligan-Bricky-Dungarvan Harbour	LAWRPO: Sub-catchment of existing PAA, HSO WB At Risk
17_6	IE_SE_17C010180	COLLIGAN_030	River	Review	Review	Unassigned	Unassigned	No		Colligan-Bricky-Dungarvan Harbour	LAWPRO: Existing PAA
17_6	IE_SE_17C010300	COLLIGAN_040	River	At risk	Not at risk	Moderate	Good	No		Colligan-Bricky-Dungarvan Harbour	LAWPRO: Existing PAA
17_4	IE_SE_17C390620	CUSHCAM_010	River	Review	Review	Unassigned	Unassigned	No		Colligan-Bricky-Dungarvan Harbour	LAWPRO: Existing PAA Connected to the Deelish stream in this sub-catchment (17_6)
17_4	IE_SE_17D010300	DALLIGAN_010	River	Not at risk	Not at risk	High	High	Yes			
17_1	IE_SE_17D020300	DUNHILL_010	River	At risk	At risk	Poor	Moderate	No	Ag, DWW, Hymo	Dunhill	LAWPRO: Existing PAA
17_6	IE_SE_17D030100	DEELISH STREAM_010	River	Review	Review	Unassigned	Unassigned	No		Colligan-Bricky-Dungarvan Harbour	LAWPRO: Existing PAA
17_5	IE_SE_17D090400	DUFFCARRICK_010	River	Review	Review	Unassigned	Unassigned	No			

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)
17_3	IE_SE_17F050990	FAHA (Waterford)_010	River	Review	Review	Unassigned	Unassigned	No			
17_1	IE_SE_17F070820	FENNOR_NORTH_010	River	Review	Review	Unassigned	Unassigned	No			
17_1	IE_SE_17K030200	KILMURRIN COVE STREAM_010	River	At risk	At risk	Unassigned	Unassigned	No	UWW	Dunhill	LAWPRO: Existing PAA
17_2	IE_SE_17K210690	COOLTEGIN_010	River	Review	Review	Unassigned	Unassigned	No		Waterford Harbour	Expand Waterford Harbour PAA to include coastal tribs on western side of estuary
17_6	IE_SE_17K380650	KILLONGFORD_010	River	Review	Review	Unassigned	Unassigned	No		Colligan-Bricky-Dungarvan Harbour	LAWPRO: Existing PAA
17_2	IE_SE_17K410990	KNOCKACURRIN_010	River	Review	Review	Unassigned	Unassigned	No		Waterford Harbour	Expand Waterford Harbour PAA to include coastal tribs on western side of estuary
17_2	IE_SE_17L010300	LEPERSTOWN STREAM_010	River	At risk	At risk	Poor	Poor	No	Ag		
17_3	IE_SE_17M010100	MAHON_010	River	Not at risk	Not at risk	High	High	Yes		Mahon	LAWPRO: Proposed as RAA in public consultation in Oct 2017 Waterford CC: Two major DW abstractions and flows to designated bathing areas IFI: The Mahon River as a catchment management project focusing upon all issues but concentrating upon barriers to the free passage of fish, this would build upon significant water quality improvements in the Mahon by the recent upgrade of Kilmacthomas WWTP.
17_3	IE_SE_17M010200	MAHON_020	River	At risk	At risk	Poor	Moderate	No	Ag, UWW	Mahon	LAWPRO: Proposed as RAA in public consultation in Oct 2017 Waterford CC: Two major DW abstractions and flows to designated bathing areas IFI: The Mahon River as a catchment management project focusing upon all issues but concentrating upon barriers to the free passage of fish, this would build upon significant water quality improvements in the Mahon by the recent upgrade of Kilmacthomas WWTP.
17_3	IE_SE_17M010300	MAHON_030	River	Not at risk	Not at risk	Unassigned	Unassigned	No		Mahon	LAWPRO: Proposed as RAA in public consultation in Oct 2017

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)
											Waterford CC: Two major DW abstractions and flows to designated bathing areas IFI: The Mahon River as a catchment management project focusing upon all issues but concentrating upon barriers to the free passage of fish, this would build upon significant water quality improvements in the Mahon by the recent upgrade of Kilmacthomas WWTP.
17_3	IE_SE_17M010350	MAHON_040	River	Not at risk	Not at risk	Good	Good	No		Mahon	LAWPRO: Proposed as RAA in public consultation in Oct 2017 Waterford CC: Two major DW abstractions and flows to designated bathing areas IW: EPA Pesticide Action & Watch List - Watch IFI: The Mahon River as a catchment management project focusing upon all issues but concentrating upon barriers to the free passage of fish, this would build upon significant water quality improvements in the Mahon by the recent upgrade of Kilmacthomas WWTP.
17_3	IE_SE_17M020200	MORRAGEN_010	River	Not at risk	Not at risk	Good	Good	No		Mahon	Waterford CC: Two major DW abstractions and flows to designated bathing areas
17_2	IE_SE_17M060970	MONLOUM_010	River	Review	Review	Unassigned	Unassigned	No			
17_5	IE_SE_17M100650	MAOIL AN CHOIRNIGH_010	River	Review	Review	Unassigned	Unassigned	No			
17_5	IE_SE_17S030780	AN_SCREATHAN_010	River	Review	Review	Unassigned	Unassigned	No			
17_4	IE_SE_17T010050	TAY_010	River	At risk	At risk	Good	Good	Yes	Ag, For	Tay (Stradbally Cove)	Waterford CC: Important local bathing area, failing to maintain stds, HSO WB At Risk IFI: have located another fish passage issue on lands owned by Waterford Council on a tributary of the Tay River.
17_4	IE_SE_17T010250	TAY_020	River	Not at risk	Not at risk	Good	High	No		Tay (Stradbally Cove)	Waterford CC: Important local bathing area, failing to maintain stds IFI: have located another fish

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)
											passage issue on lands owned by Waterford Council on a tributary of the Tay River.
17_4	IE_SE_17T010400	TAY_030	River	Not at risk	Not at risk	Good	Good	No		Tay (Stradbally Cove)	Waterford CC: Important local bathing area, failing to maintain stds IFI: have located another fish passage issue on lands owned by Waterford Council on a tributary of the Tay River.
17_2	IE_SE_17_5	Belle	Lake	At risk	At risk	Moderate	Moderate	No	Ag		
17_1	IE_SE_17_6	Ballinlough	Lake	Review	Review	Unassigned	Unassigned	No			
13_3, 13_4, 13_5, 17_1, 17_2, 17_3, 17_4, 17_5, 17_6	IE_SE_050_0000	Eastern Celtic Sea (HAs 13;17)	Coastal	Not at risk	Not at risk	Unassigned	Unassigned	No			
13_3, 17_2	IE_SE_100_0000	Waterford Harbour	Coastal	Review	At risk	Good	Moderate	No	Ag, UR	Waterford Harbour	LAWPRO: Existing PAA TraC
17_1, 17_2	IE_SE_110_0000	Tramore Bay	Coastal	Not at risk	Not at risk	Unassigned	Unassigned	No			
17_2	IE_SE_120_0000	Tramore Back Strand	Coastal	Review	Not at risk	High	High	Yes			
17_4, 17_6	IE_SE_140_0000	Dungarvan Harbour	Coastal	Not at risk	Not at risk	High	High	No			
17_5, 19_12, 20_1, 20_11, 20_13, 20_14, 20_15, 20_3, 20_4	IE_SW_010_0000	Western Celtic Sea (HAs 18;19;20)	Coastal	Not at risk	Not at risk	Unassigned	Unassigned	No			
17_5, 18_27, 18_8, 19_12, 19_16	IE_SW_020_0000	Youghal Bay	Coastal	At risk	At risk	Good	Moderate	No	Ag		
13_3, 14_19, 16_19, 17_2	IE_SE_100_0100	Barrow Suir Nore Estuary	Transitional	Not at risk	At risk	Good	Moderate	No	Ag	Waterford Harbour	Waterford CC: Multiple pressures, Major high profile local interest and complaints of mass die off of mussels, Backing of EPA licensing section Wexford CC proposed for prioritisation IFI: Research IFI Index catchment BIM: Shellfish PA, Norovirus impacts, concern re sodium hypochlorite use (point source), important inshore fisheries
17_3	IE_SE_130_0100	Mahon Estuary	Transitional	Review	Review	Unassigned	Unassigned	No			
17_6	IE_SE_140_0100	Colligan Estuary	Transitional	At risk	At risk	Moderate	Poor	No	UWW	Colligan-Bricky-Dungarvan Harbour	LAWPRO: Existing PAA BIM: Shellfish protected area, extreme high levels of norovirus in

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)
											winter, concerns re stormwater overflows entering harbour
17_6	IE_SE_140_0200	Brickey Estuary	Transitional	Review	Review	Unassigned	Unassigned	No		Colligan-Bricky-Dungarvan Harbour	TraC
17_5, 18_15, 18_19, 18_27, 18_5, 18_8	IE_SW_020_0100	Lower Blackwater M Estuary / Youghal Harbour	Transitional	At risk	At risk	Moderate	Moderate	No	Ag		
17_4, 17_6, 18_15	IE_SE_G_014	Ballyknock	Groundwater	Review	Not at risk	Good	Good	No			
17_4, 17_6, 18_15	IE_SE_G_052	Dungarvan	Groundwater	Review	Not at risk	Good	Good	No			
17_6	IE_SE_G_055	Industrial Facility (P0156-01)	Groundwater	Not at risk	Not at risk	Good	Good	No			
16_19, 17_2	IE_SE_G_057	Dunmore East	Groundwater	Not at risk	Not at risk	Good	Good	No			
17_5, 17_6, 18_15, 18_27	IE_SE_G_073	Helvick Head	Groundwater	Review	Not at risk	Good	Good	No			
16_17, 16_3, 17_3, 17_4, 17_6, 18_15	IE_SE_G_085	Kilrion	Groundwater	Not at risk	Not at risk	Good	Good	No			
16_17, 16_19, 16_7, 17_1, 17_2, 17_3, 17_4	IE_SE_G_146	Tramore	Groundwater	At risk	At risk	Good	Good	No	Ag		
15_18, 16_17, 16_19, 16_27, 16_29, 16_7, 17_1, 17_2, 17_3	IE_SE_G_149	Waterford	Groundwater	Review	Review	Good	Good	No			
16_1, 16_16, 16_17, 16_25, 16_3, 16_7, 17_3, 17_4, 17_6, 18_15, 18_16, 18_17, 18_24	IE_SE_G_154	Comeragh	Groundwater	Not at risk	Review	Good	Good	No			
17_6	IE_SE_G_178	Waste Facility (W0032-02)	Groundwater	At risk	At risk	Poor	Poor	No	Other		
16_1, 17_6, 18_15, 18_16, 18_17, 18_22, 18_24, 18_28, 18_5	IE_SW_G_025	Cappoquin Kiltorcan	Groundwater	At risk	At risk	Good	Good	No	Ag, Other		

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)
17_5, 17_6, 18_10, 18_11, 18_12, 18_14, 18_15, 18_19, 18_21, 18_23, 18_25, 18_27, 18_28, 18_4, 18_5, 18_7, 18_8, 18_9, 19_11, 19_13, 19_16, 19_18, 19_4, 19_5, 19_7, 19_8, 22_16, 22_8	IE_SW_G_037	Glenville	Groundwater	Review	At risk	Good	Good	No	Ag		
16_1, 16_25, 16_3, 17_6, 18_15, 18_16, 18_17, 18_24, 18_28	IE_SW_G_047	Knockmealdown	Groundwater	Review	Review	Good	Good	No			
17_6, 18_15, 18_24, 18_5	IE_SW_G_050	Lismore	Groundwater	At risk	Review	Good	Good	No			
17_5, 18_27	IE_SW_G_077	Tourig Group 3	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.