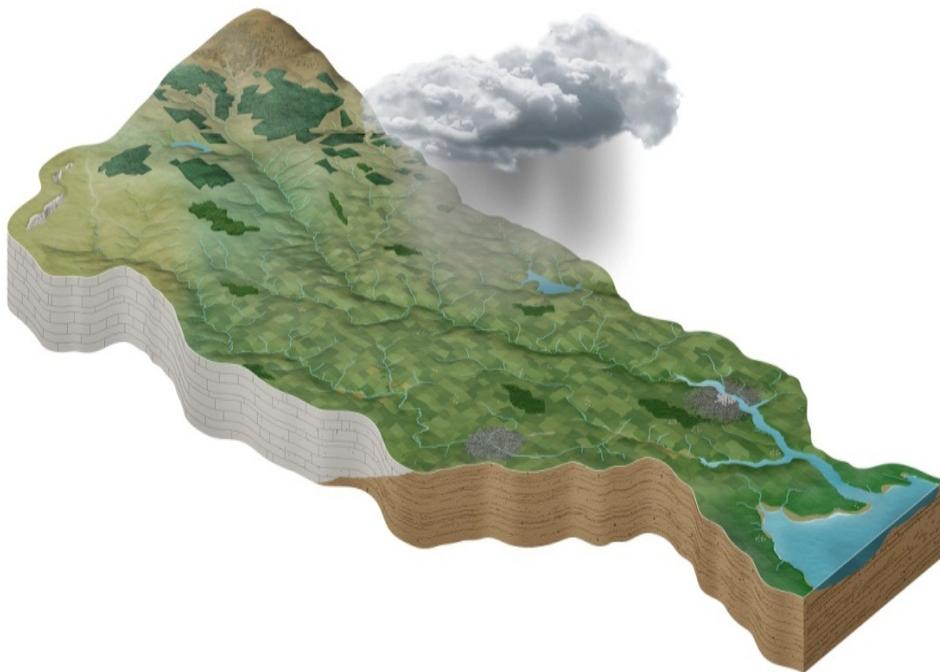


3rd Cycle Draft Boyne Catchment Report (HA 07)



Catchment Science & Management Unit

Environmental Protection Agency

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Version no. 1

Preface

This document provides a summary of the water quality assessment outcomes for the Boyne 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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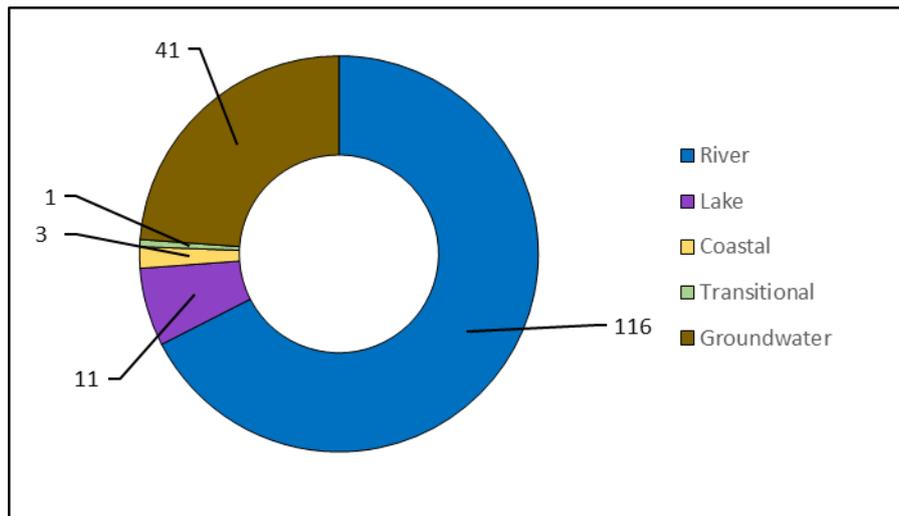


Figure 2: Waterbody types and numbers in the Boyne Catchment.

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 is one waterbody achieving High Status, 64 achieving Good Status, 50 achieving Moderate Status and 29 at Poor Status. There are 28 waterbodies that do not have status assigned for Cycle 3. All waterbodies must achieve at least Good Ecological status.
- ◆ In addition, there is one river waterbody, one lake waterbody and one coastal waterbody that must achieve High Ecological Status (HES) in this catchment. These waterbodies are listed in Appendix 1. Of the three HES Environmental Objective waterbodies, one coastal waterbody (Northwestern Irish Sea (HA 08)) is achieving High Status while the remaining two waterbodies (Chapel Lake Stream_010 & Bane Noggin Hill lake waterbody) are at Good Status.
- ◆ The overall number of waterbodies achieving High Status has reduced from two to one between Cycle 2 and Cycle 3 (Figure 3 & Table 1). In Cycle 2 there was one High Status River and one High Status lake, however in Cycle 3 there is one High Status coastal waterbody. The numbers of Good Status and Bad Status waterbodies have also reduced between Cycle 2 and Cycle 3 from 68 to 64 and from three to zero, respectively. There were increases in the numbers of waterbodies in the Moderate Status and Poor Status classes.

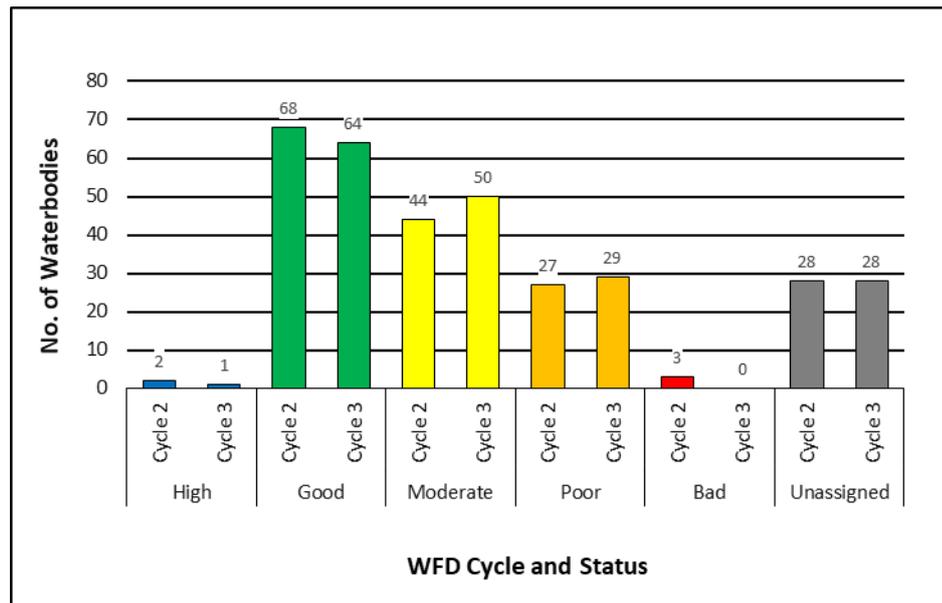


Figure 3: Waterbody Status Breakdown (All waterbodies)

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	1	0	1	0	0	0	0	1	0	0	2	1
Good	28	24	2	2	0	0	2	0	36	38	68	64
Moderate	43	46	0	2	1	1	0	1	0	0	44	50
Poor	20	22	2	4	0	0	0	0	5	3	27	29
Bad	0	0	3	0	0	0	0	0	0	0	3	0
Unassigned	24	24	3	3	0	0	1	1	0	0	28	28
Total	116	116	11	11	1	1	3	3	41	41	172	172

- ◆ 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 20 (14%) waterbodies have improved in status, 101 (70%) waterbodies have remained unchanged and 23 (16%) waterbodies have declined in status.¹
- ◆ There is an overall decline in the status of three 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.

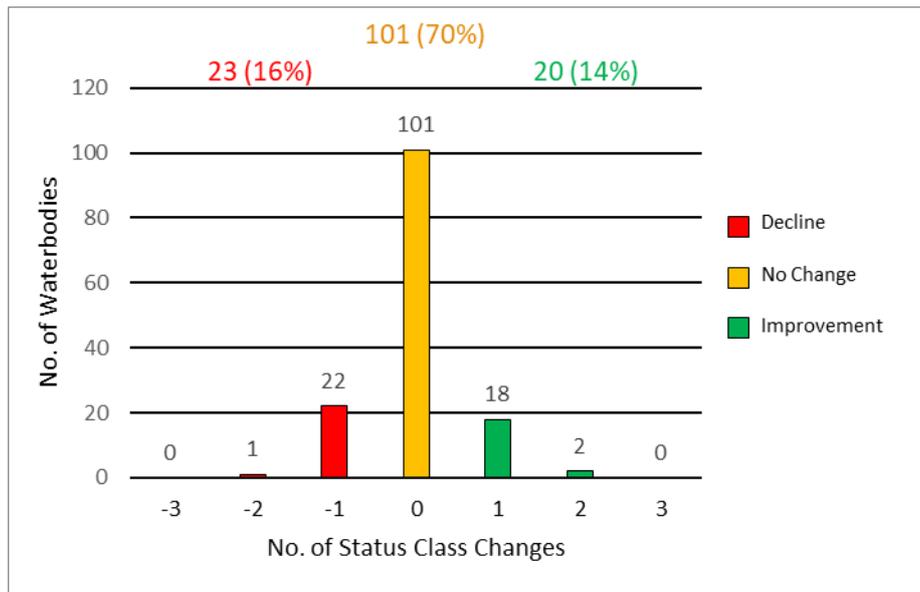


Figure 4: Status Class Changes between Cycle 2 and Cycle 3

2.2 Protected Areas

2.2.1 Drinking Water

- ◆ There are 12 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 and one lake waterbody in the catchment did not meet the DWPA objective in 2019:
 - Blackwater (Kells)_120 (IE_EA_07B011800) river waterbody is the source for the Navan-Mid Meath (2300PUB1016) public supply which had pesticide (Fluroxypyr) exceedances.
 - Nadreegeel (IE_EA_07_273) lake waterbody is the source for Ballyjamesduff RWSS (0200PUB0106) which had pesticide (MCPA & Metaldehyde) exceedance.
- ◆ 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 is one bathing water designated lake (The Cut, Lough Lene) in the Boyne catchment identified under the Bathing Water Regulations 2008.
- ◆ This bathing water had an Excellent classification for 2020.

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>

- ◆ For more detailed information please see the EPA report on [bathing water quality in 2020⁴](#).

2.2.3 Shellfish Areas

- ◆ There are no designated shellfish areas in the catchment.

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

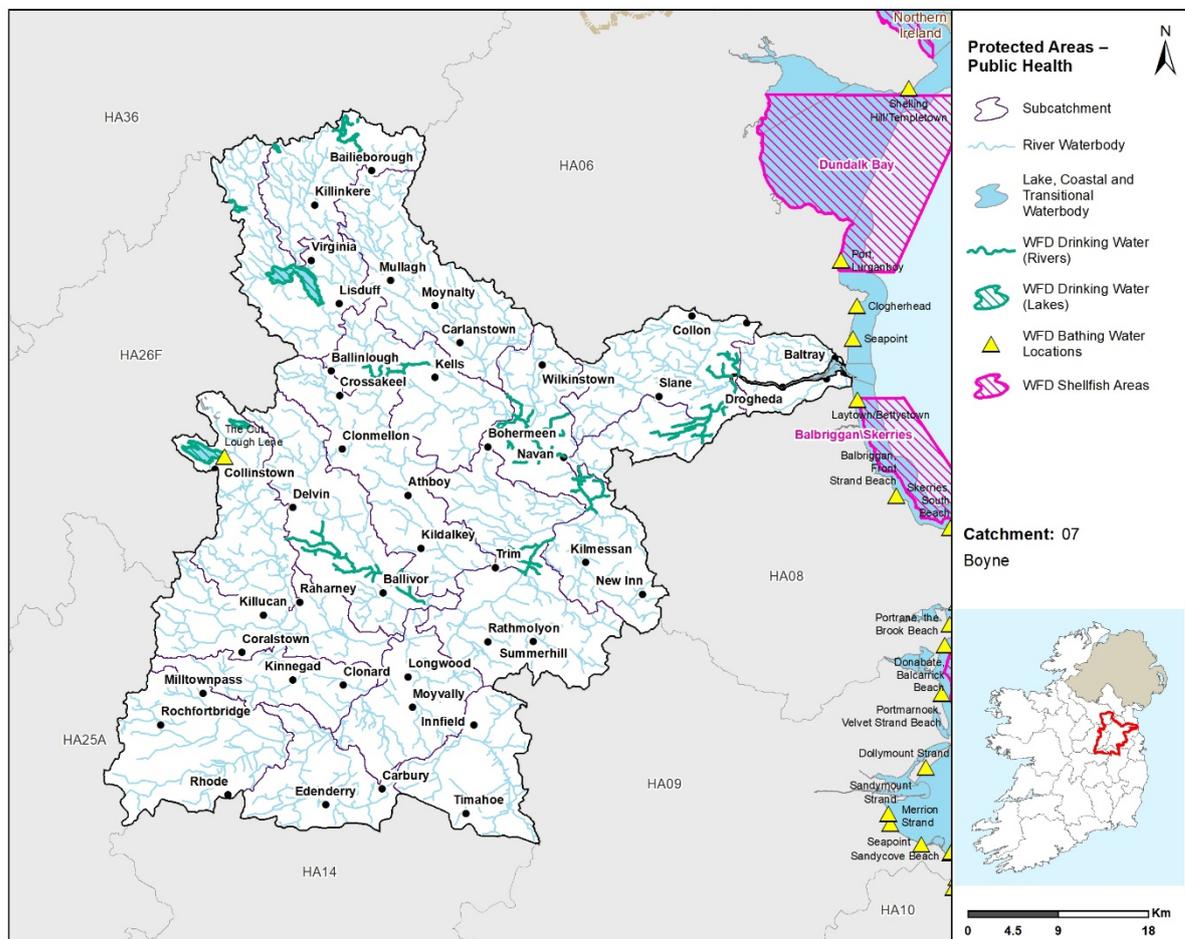


Figure 5: Protected Areas – Public Health

2.2.4 Natura 2000 Sites and Salmonid Waters

- ◆ 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 10 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

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

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 2.

Table 2: Natura 2000 network assessment summary

Water Body Type	Total No.	Meeting the Requirements	Did not meet the Requirements	Unknown*
Rivers	44	10	23	11
Transitional & Coastal	1	1	0	0

*As the waterbody status was unassigned.

- ◆ There are no Fresh Water Pearl Mussel (FWPM) habitats present in the Boyne Catchment.
- ◆ There are four groundwater bodies delineated and assessed as Groundwater Dependent Terrestrial Ecosystems (GWDTE) for this catchment. All four are at Good Status and *Not At Risk* in Cycle 3. The GWDTE groundwaters in the catchment are:
 - GWDTE-Mount Hevey Bog (SAC002342)
 - GWDTE-Killyconny Bog (Cloghbally) (SAC000006)
 - GWDTE-Raheenmore Bog (SAC000582)
 - GWDTE-Newtown Lough Fen (SAC002299)
- ◆ Water dependent SACs/ SPAs and salmonid waters in the catchment are illustrated in Figure 6.

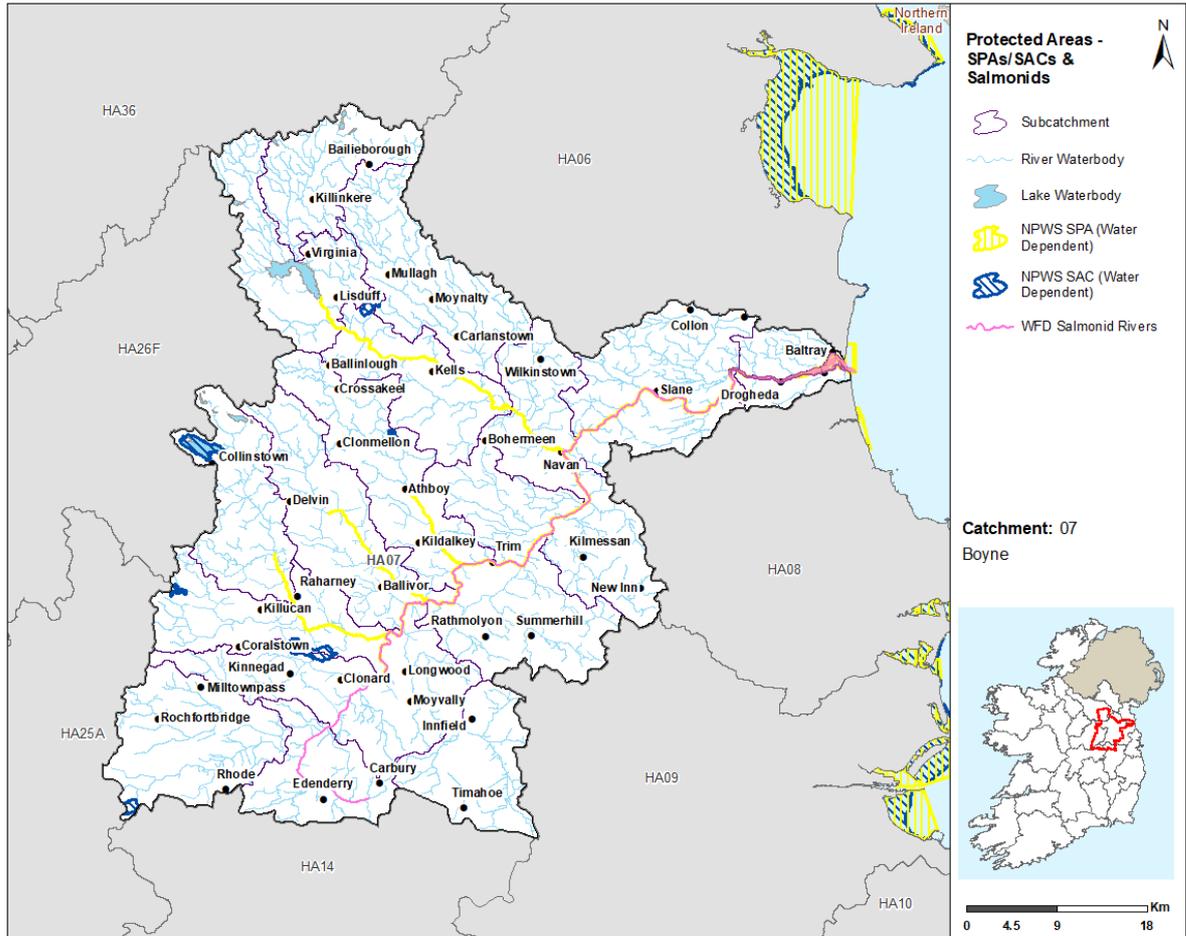


Figure 6: Water Dependent SPAs / SACs and Salmonid Waters

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 and this assessment will inform the regulations. 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 three NSAs in the catchment and these are downstream of three urban wastewater agglomerations. The list of NSAs, associated agglomerations and intersecting water bodies are provided in Table 3.
- ◆ NSA objectives are being met in all three NSAs in the catchment.

Table 3: Nutrient sensitive areas in the catchment

Nutrient Sensitive Area	Agglomeration		Water body		Objective met?		Comment
	Name	Code	Name	Code	Yes	No	
Boyne River (100-120)	Trim	D0137-01	Boyne_100	IE_EA_07B041500			Tertiary Treatment in place
			Boyne_110	IE_EA_07B041600			
			Boyne_120	IE_EA_07B041700			
			Boyne_150	IE_EA_07B042010	✓		
			Boyne_160	IE_EA_07B042100	✓		
	Navan	D0059-01					

Boyne River (150-180)			Boyne_170	IE_EA_07B042150			Tertiary Treatment in place
			Boyne_180	IE_EA_07B042200			
Boyne Estuary	Drogheda	D0041-01	Boyne Estuary	IE_EA_010_0100	✓		Tertiary Treatment in place

2.3 Heavily Modified Waterbodies

- ◆ Based on the 1st and 2nd RBMPs there are currently no heavily modified water bodies (HMWBs) in the Boyne 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

- ◆ In total, there are two artificial waterbodies in the Boyne Catchment, namely, Grand Canal Main Line (Boyne) and Royal Canal Main Line (Boyne).
- ◆ Both artificial waterbodies were at Good Status in Cycle 2 and remain at Good Status in Cycle 3, therefore, no change in status has been observed.

3 Waterbody Risk

3.1 Overview of Risk

- ◆ A waterbody that is *At Risk* means that either the waterbody is not achieving its Water Framework Directive (WFD) environmental objective of Good or High Ecological Status or that there is a trend indicating that by the end of Cycle 3 if the trend continues the waterbody will decline in Status 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 a 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 172 waterbodies in the Boyne Catchment and 93 (54%) of these are currently *At Risk*, 32 (19%) in *Review* and 47 (27%) are *Not At Risk*.

3.2 Surface Waters

- ◆ For the 116 river waterbodies in the catchment, 75 (65%) are *At Risk*, 24 (21%) are in *Review* and 17 (15%) are *Not At Risk*.

- ◆ For the 11 lake waterbodies in the catchment, 7 (64%) are *At Risk*, three (27%) are in *Review* and one (9%) is *Not At Risk*.
- ◆ The Boyne Estuary transitional waterbody is *At Risk*.
- ◆ For the three coastal waterbodies in the catchment, one (33%) is *Not At Risk*, one (33%) is in *Review* and one (33%) is *At Risk*. Boyne Estuary Plume Zone is the coastal waterbody *At Risk*.
- ◆ The largest proportion of *At Risk* waterbodies are found in rivers, accounting for 75 (81%) of 93 *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 12 *At Risk* waterbodies and a reduction of 10 *Review* waterbodies between Cycle 2 and Cycle 3. Two artificial waterbodies (Grand Canal Main Line (Boyne) & Royal Canal Main Line (Boyne)) did not have risk assigned in Cycle 2.

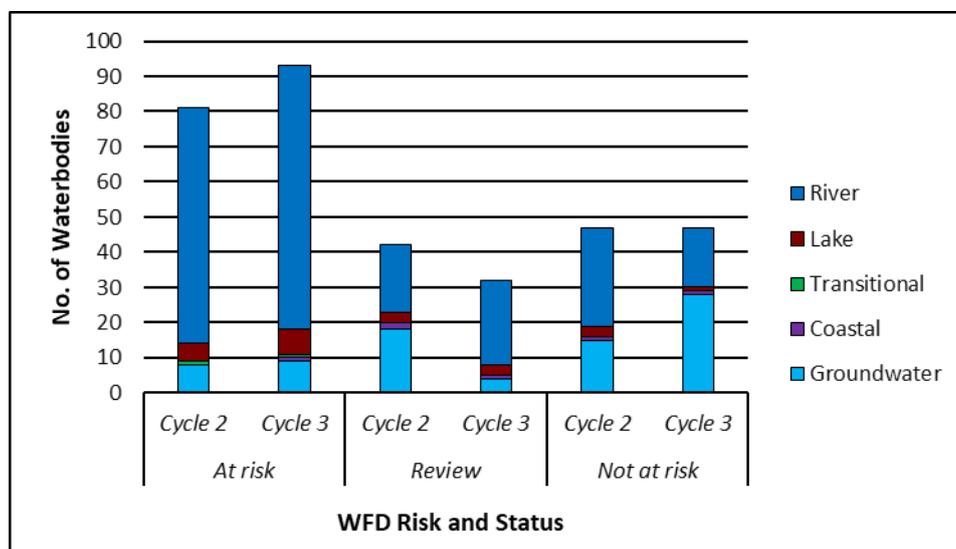


Figure 7: Number of waterbodies in each risk category

- ◆ 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.

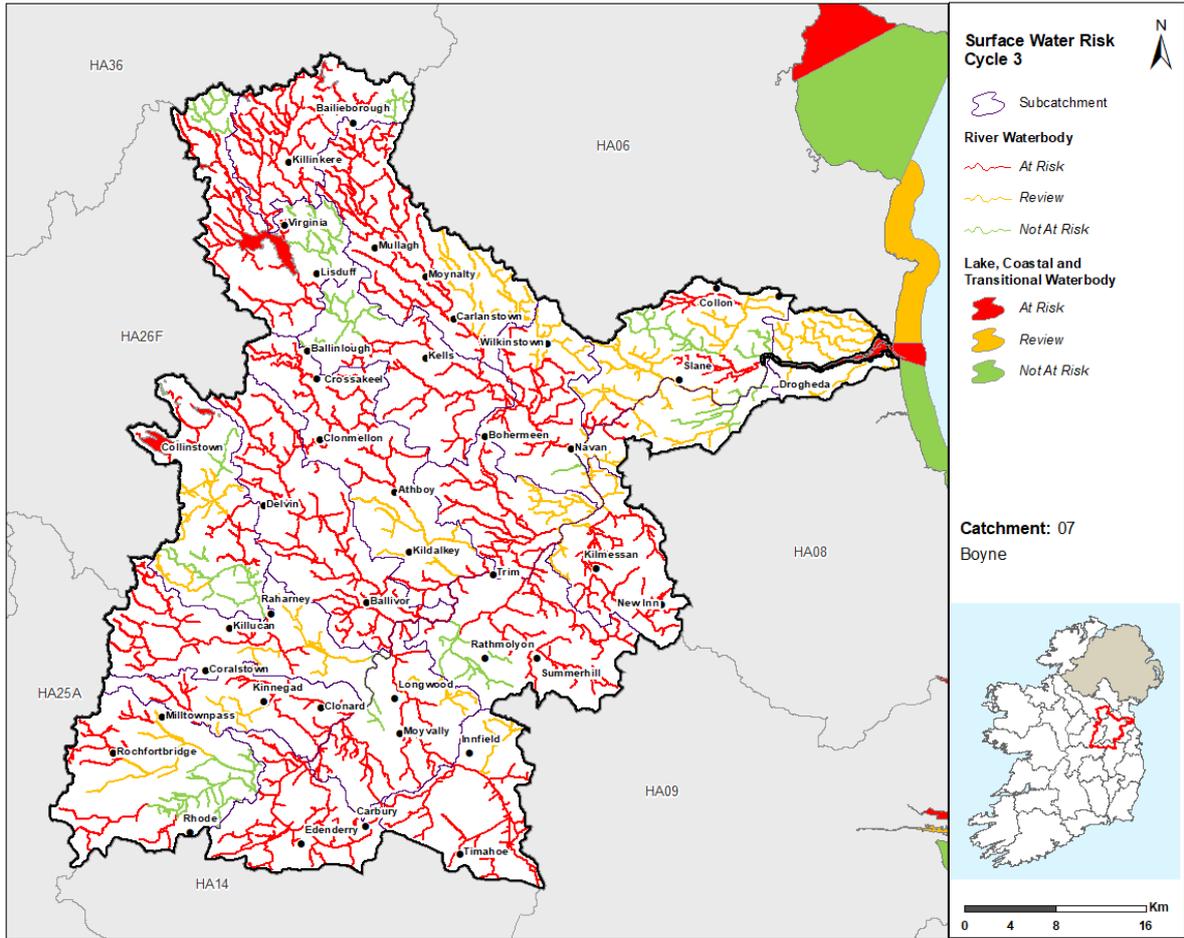


Figure 8: Surface Water Risk Cycle 3

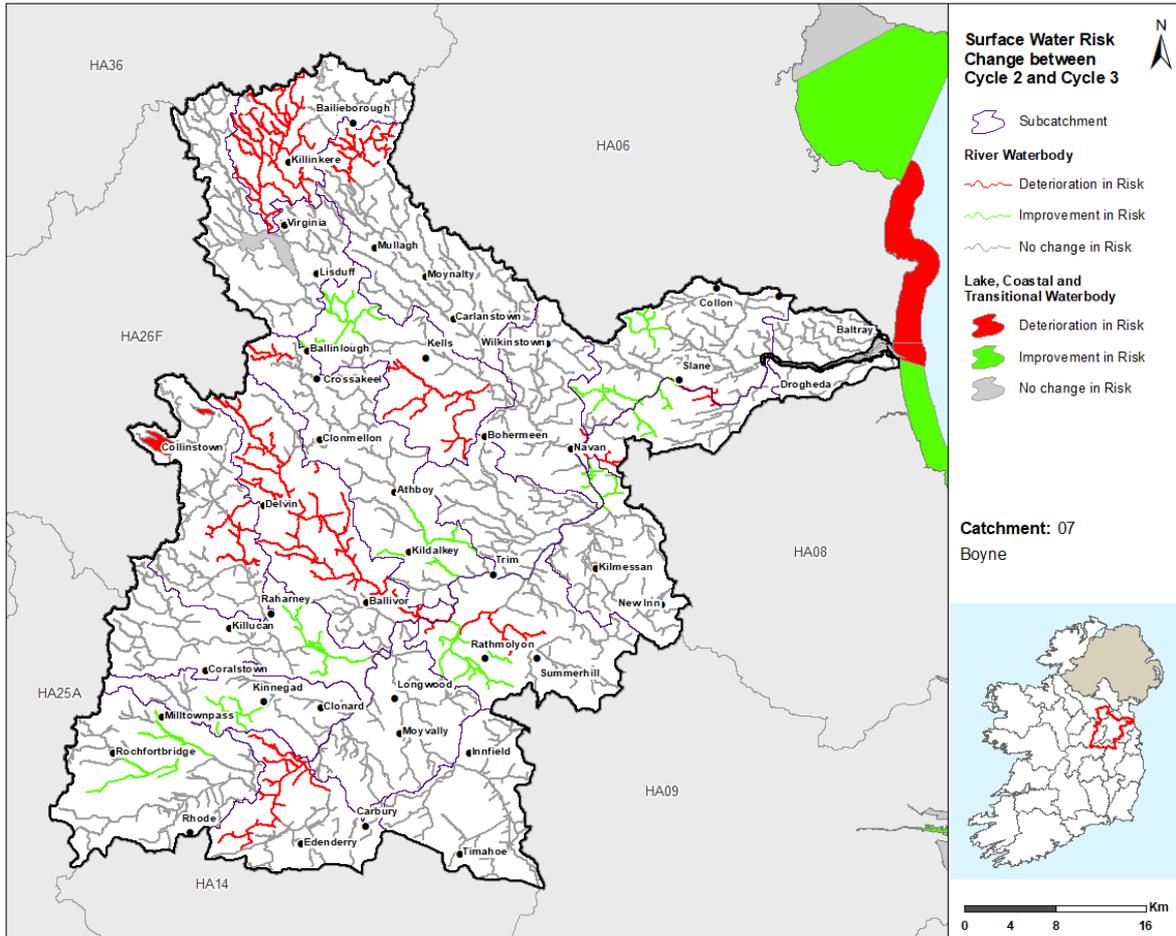


Figure 9: Surface Water Risk Change between Cycle 2 and Cycle 3

3.3 Groundwater

- ◆ For the 41 groundwater bodies in the catchment, nine (22%) are *At Risk*, four (10%) are in *Review* and 28 (68%) are *Not At Risk*.
- ◆ In Cycle 2, there were eight groundwater bodies *At Risk* in this catchment, 18 in *Review* and 15 *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.

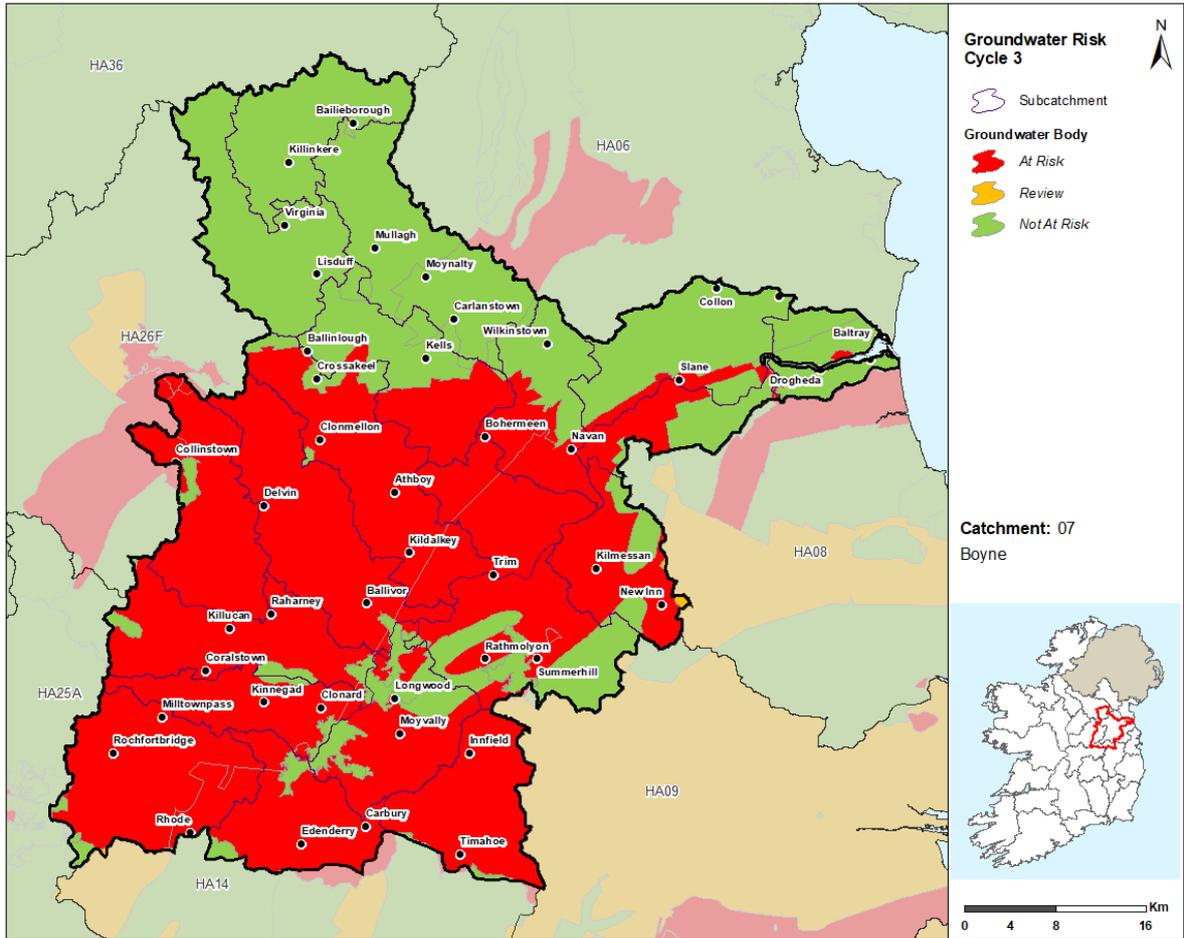


Figure 10: Cycle 3 Groundwater Body Risk

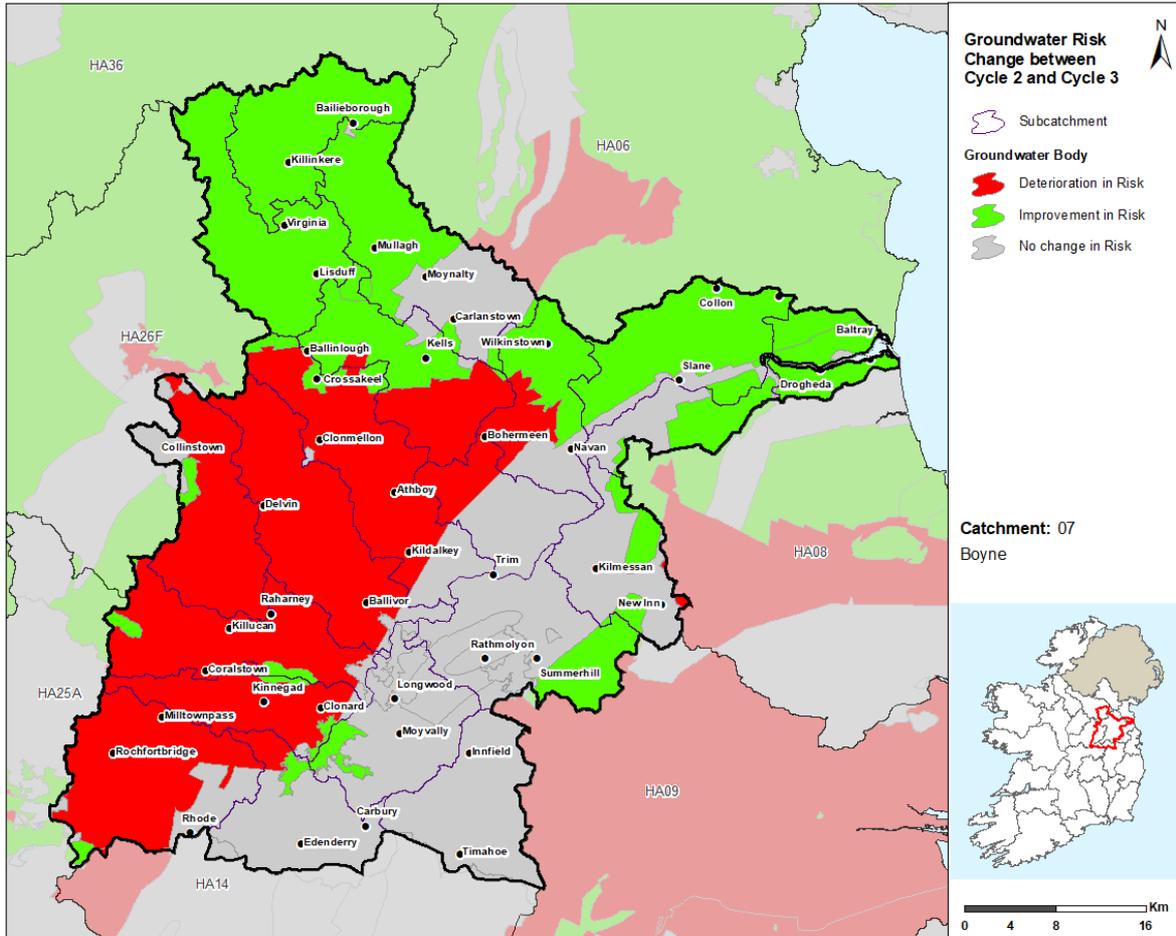


Figure 11: Groundwater Body Risk Change between Cycle 2 & Cycle 3

3.4 Heavily Modified Waterbodies

- ◆ There are currently no heavily modified water bodies (HMWBs) in the Boyne catchment. 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

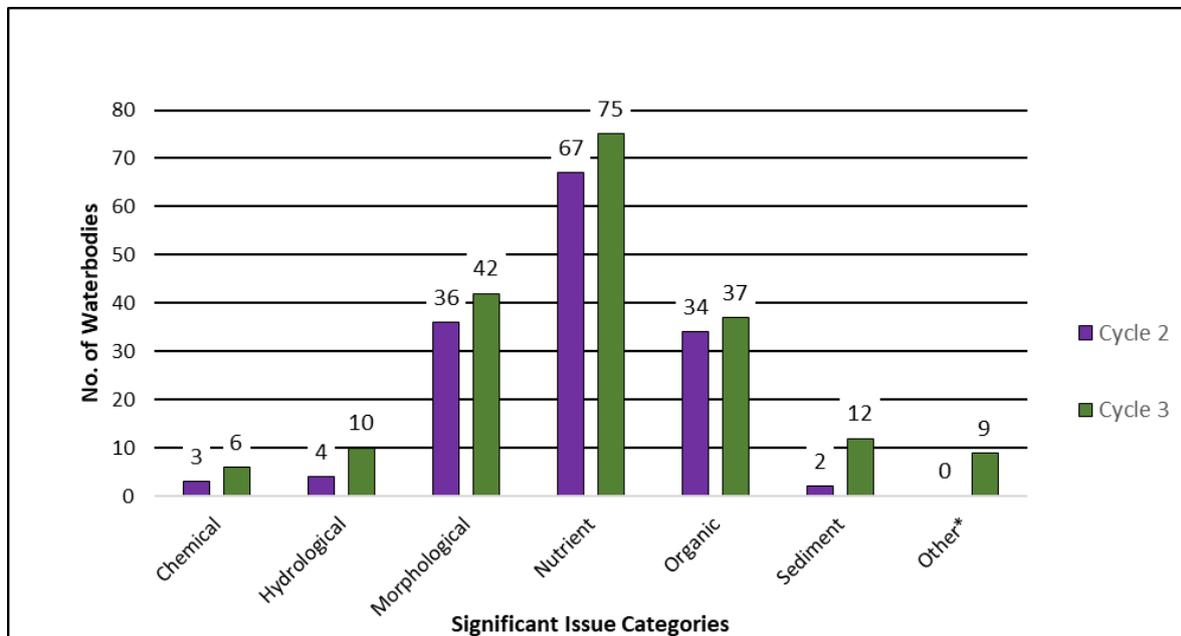
- ◆ There are two artificial waterbodies in the Boyne Catchment (Grand Canal Main Line (Boyne) & Royal Canal Main Line (Boyne)) both of which are *Not At Risk* in Cycle 3.

4 Significant Issues in *At Risk* Waterbodies

4.1 All Waterbodies

- ◆ Excess nutrients remain the most prevalent issue in the Boyne Catchment (Figure 12) impacting 75 waterbodies in Cycle 3. Morphological issues are impacting 42 waterbodies, organic pollution is impacting 37 waterbodies and sediment and hydrological impacts are affecting 12 and 10 waterbodies, respectively. Chemical pollution is a significant issue in six waterbodies.

- For rivers, the main significant issues are nutrient pollution (61), morphological impacts (42) organic pollution (34), hydrological impacts (9), and sediment (8).
 - For Lakes, the main significant issues are nutrient pollution (6), sediment impacts (3), organic (2), chemical impacts (2) and hydrological impacts (1).
 - Nutrient and organic pollution are significant issues impacting the Boyne Estuary transitional waterbody.
 - Nutrient pollution is the issue impacting the Boyne Estuary Plume Zone.
 - For groundwaters, the significant issues are nutrients pollution (6), chemical pollution (3), sediment (1) and other issues (7).
- ◆ Between Cycle 2 and Cycle 3 the number of waterbodies associated with each significant issue category has increased. The biggest increases are with sediment and nutrients, increasing from two to 12 and 67 to 75 respectively.
 - ◆ All impacts under the other category in Figure 12 have unknown impacts and require further investigation.

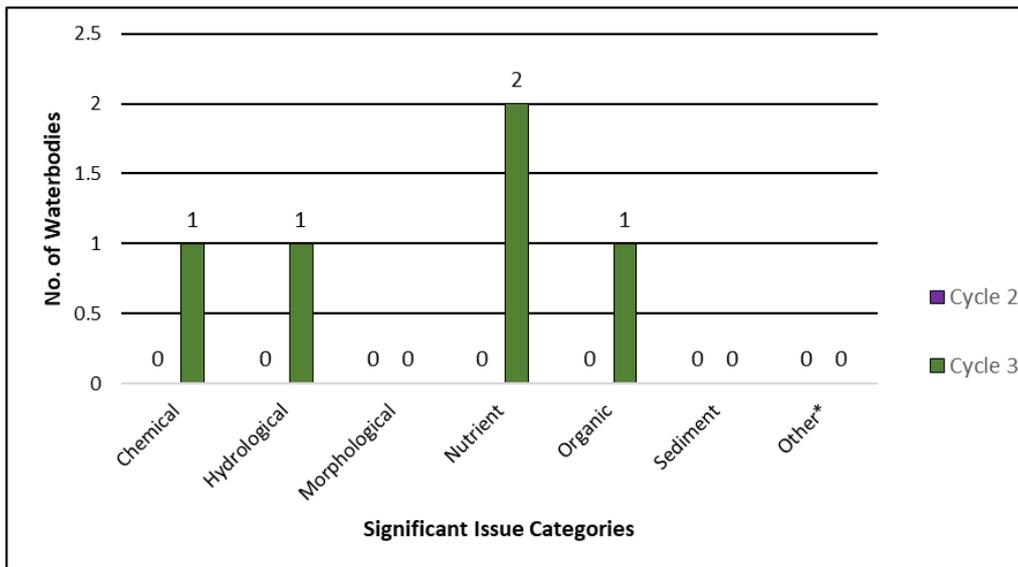


*Other - Acidification, saline intrusion, elevated temperature, litter, microbiological pollution and unknown impacts have all been grouped into the "Other" issues category for the purpose of this report

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, nutrient issues are impacting both (Chapel Lake Stream_010 river waterbody & Bane Noggin Hill lake waterbody) High Status Objective waterbodies currently *At Risk* (Figure 13). Organic pollution is also impacting on Chapel Lake Stream_010, while chemical and hydrological issues are also impacting Bane Noggin Hill.
- ◆ The absence of Cycle 2 significant issues in Figure 13 is because there were no *At Risk* High Status Objective waterbodies in Cycle 2.



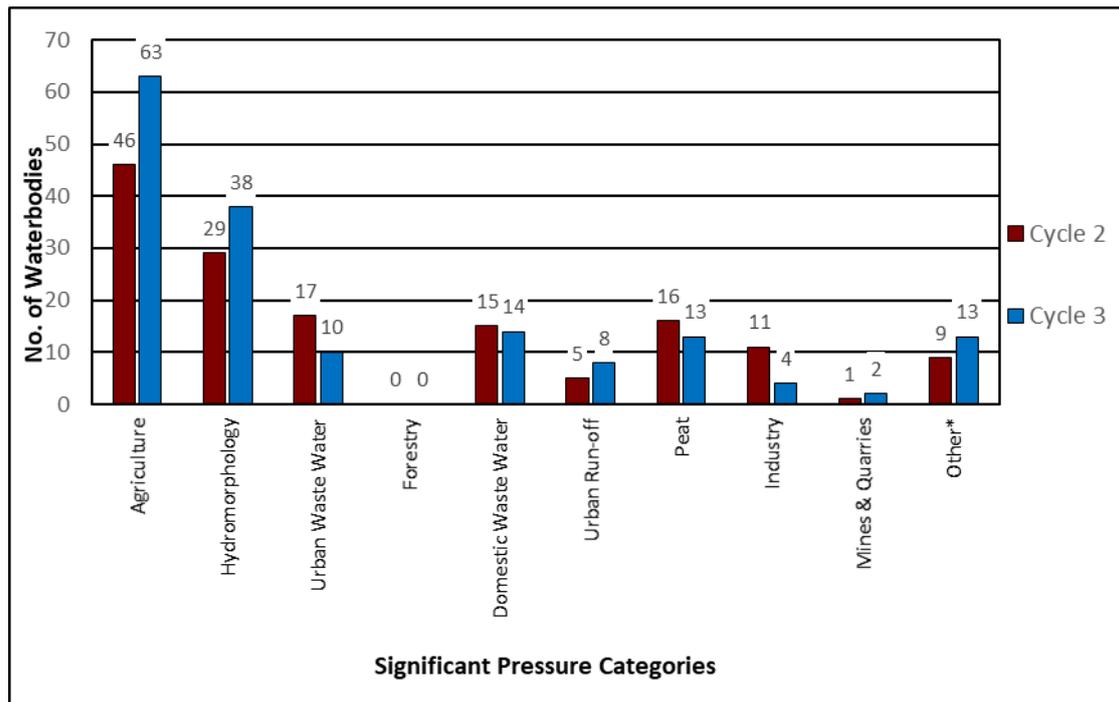
*Other - Acidification, saline intrusion, elevated temperature, litter, microbiological pollution and unknown impacts have all been grouped into the "Other" issues category for the purpose of this report

Figure 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 hydromorphological pressures, domestic waste water, peat, urban waste water, urban run-off, industry and mines & quarries.
- ◆ When comparing Cycle 2 and Cycle 3 the biggest change is an increase of 17 waterbodies where agriculture is a significant pressure from 46 waterbodies in Cycle 2 to 63 waterbodies in Cycle 3. This suggests that agricultural pressures are the primary reason for the overall decline in waterbody status since Cycle 2.
- ◆ There has also been an increase in the number of waterbodies impacted by hydromorphological pressures, however, this is more likely associated with 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.
- ◆ Urban waste water, domestic waste water, peat and industry are all impacting less waterbodies in Cycle 3 than 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 51 river waterbodies, five lake waterbodies, one transitional waterbody (Boyne Estuary) and six groundwater bodies in Cycle 3. 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, remains an issue since Cycle 2. Sediment associated with agricultural activities, including land drainage works, bank erosion from animal access or stream crossings, has also been noted as an issue in this catchment. Organic pollution associated with run-off from farmyards in particular, has also been identified throughout the catchment.

5.1.1.2 Hydromorphology

- ◆ Hydromorphology is a significant pressure in 38 river waterbodies. Channelisation is the dominant hydromorphology subcategory in the catchment with 34 river waterbodies within the catchment subject to extensive modification mainly due to drainage schemes. Dams, barriers, lock and weirs were identified as the pressure subcategory in five river waterbodies (Athboy_040, Blackwater (Kells)_120, Crosskeys Stream_010, Stonyford_010 & Stonyford_020). Channelisation was also an issue in all five of these waterbodies. Land drainage was identified as an impact on Boyne_020 river waterbody and three river waterbodies (Blackwater (Kells)_020, Blackwater (Kells)_050 & Blackwater (Kells)_060) are still impacted by embankment schemes.

5.1.1.3 Domestic waste water

- ◆ Domestic waste water has been identified as a significant pressure in 10 river waterbodies, three lakes (Acurry, Skeagh Upper & Drumkeery). The significant issues arise from unsuitable domestic waste water treatment systems, especially when they are poorly sited on areas of high pollution impact potential/poorly draining soils or discharging directly into the water bodies. This results in enrichment and organic contamination. Furthermore, some of these locations are located on areas of high susceptibility to phosphate transport via near surface pathways. Domestic waste water has

also been identified as a significant pressure in one groundwater body (Trim) where groundwater contribution of nutrient and other impacts to surface waters were identified as issues.

5.1.1.4 Urban waste water

- ◆ Urban waste water agglomerations have been identified as a significant pressure in eight *At Risk* river waterbodies, as well as Ramor lake and Boyne Estuary (Table 4).
- ◆ Bailieborough and Virginia agglomerations are due to be upgraded by 2024, and the Drogheda agglomeration is due to be upgraded by 2021. There are no plans on the current Irish Water CIP for the remaining four agglomerations that are impacting seven waterbodies.

Table 4: 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 ⁵
Drogheda D0041	Agglomeration PE > 10,000	Boyne Estuary	Moderate	2021
Virginia D0255	Agglomeration PE of 2,001 to 10,000	Ramor	Poor	2024
Bailieborough D0085	Agglomeration PE of 2,001 to 10,000	BLACKWATER (KELLS)_020	Poor	2024
Rochfortbridge D0101	Agglomeration PE of 2,001 to 10,000	CASTLEJORDAN_010	Poor	N/A
Collon D0261	Agglomeration PE of 1,001 to 2,000	MATTOCK_010	Moderate	N/A
Mullagh Waste Water Treatment Works D0252	Agglomeration PE of 1,001 to 2,000	MOYNALTY_040	Poor	N/A
Mullagh Waste Water Treatment Works D0252	Agglomeration PE of 1,001 to 2,000	MOYNALTY_050	Moderate	N/A
Mullagh Waste Water Treatment Works D0252	Agglomeration PE of 1,001 to 2,000	MOYNALTY_060	Moderate	N/A
Millview Housing Estate (Milltownpass) A0527	Agglomeration PE < 500	MILLTOWNPASS_010	Poor	N/A
Mullagh Waste Water Treatment Works D0252	Agglomeration PE of 1,001 to 2,000	MULLAGH LOUGH STREAM_010	Poor	N/A

- ◆ Urban waste water significant pressures are impacting seven less waterbodies in Cycle 3 than in Cycle 2 (a decrease from 17 to 10 waterbodies impacted). The following Agglomerations were listed as pressures in Cycle 2 but are not on the list of significant pressures in Cycle 3.
 - Slane (D0257)
 - Ballivor (D0254)
 - Longwood (D0250)
 - Kildalkey (D0486)
 - Carlanstown (D0488)

⁵ Based on Irish Water's Capital Investment Programme (2020-2024) as of February 2021 and may be subject to change.

- Kinnegad (D0104)
- Kells (D0127)
- Edenderry (D0110)
- Dunshauglin (D0138)
- Enfield (D0131)

Millview Housing Estate (Milltownpass) A0527 has been included in the list of significant pressures in Cycle 3 and was not listed in Cycle 2.

5.1.1.5 Extractive industry

◆ Peat

Peat drainage and extraction remains a significant pressure in 13 river water bodies, a reduction from 16 waterbodies in Cycle 2. The peat pressures have resulted in increased sediment loads in these rivers, which alters habitats, morphology and hydrology. There have also been fluctuations in ammonia concentrations.

5.1.1.6 Urban run-off

- ◆ Diffuse urban pressures, caused by misconnections, leaking sewers and runoff from paved and unpaved areas, have been identified as a significant pressure in seven river waterbodies as well as Boyne Estuary Plume Zone coastal waterbody impacted by Navan, Bailieborough, Edenderry, Trim, Rochfortbridge, Summerhill, Killucan and Drogheda urban areas. Elevated concentrations of nutrients and organic pollutants are the significant issues.

5.1.1.7 Industry

- ◆ Industry has been identified as a significant pressure in two river water bodies (Knightsbrook_010 & Moynalty_030) and two groundwater bodies (Industrial Facility (P0784-01) & Industrial Facility (P0690-01)). These point source discharges, causing nutrient and organic issues, arise from industrial discharges (Table 5).

Table 5: Breakdown of Cycle 3 Industry Significant Pressures in the Boyne Catchment

Waterbody Code	Waterbody Name	Waterbody Type	Emission Type	Name	Impact
IE_EA_07K020300	KNIGHTSBROOK_010	River	Section 4	N/A*	Nutrient
IE_EA_07M030300	MOYNALTY_030	River	IPC	Wellman International Limited	Nutrient
IE_EA_G_029	Industrial Facility (P0784-01)	Groundwater	IPC	Boylan Print Limited	Chemical & Diminution of quality of associated surface waters for chemical reasons
IE_SH_G_261	Industrial Facility (P0690-01)	Groundwater	IPC	Decotek Automotive Limited	Chemical & Diminution of quality of associated surface waters for chemical reasons

*Name of facility not provided during characterisation

5.1.1.8 Mines & Quarries

- ◆ A number of old quarries and backfilled quarries have been identified as a significant pressure impacting the Boyne_040 river waterbody causing morphological impacts in the river channel. Abstraction exceeding available groundwater resource (lowering water table) has also been identified as an issue in the Bettystown GWB.

5.1.1.9 Other significant pressures

◆ *Invasive species*

Invasive fish species have been identified as a significant pressure in Lene lake. IFI noted that invasive roach is now present and native fish biomass has decreased with changes in population dynamics (e.g. food web structure, competition, predation, etc.) being the main driver. Ramor lake has been identified as a zebra mussel lake but the impact type is unknown.

◆ *Abstraction*

Abstraction for water supply was identified as a significant pressure in Acurry (Clifferna private water supply) and Bane Noggin Hill (Kells/Oldcastle public water supply) lakes. Altered habitat due to hydrological changes was identified as the issue in Bane Noggin Hill and impact type in Acurry is unknown.

◆ *Unknown anthropogenic*

The significant pressures impacting five waterbodies (Blackwater (Longwood)_010, Blackwater (Longwood)_020, Blackwater (Longwood)_040), Blackwater (Kells)_070 & Boyne_150), Trim groundwater body, Boyne Estuary Plume Zone coastal waterbody and Bane Noggin Hill lake waterbody are unknown.

Figure 15 - Figure 19 illustrates the locations of waterbodies for the five most common pressures in order of prevalence (agriculture, hydromorphology, domestic waste water, peat & urban waste water) within the catchment in Cycle 3.

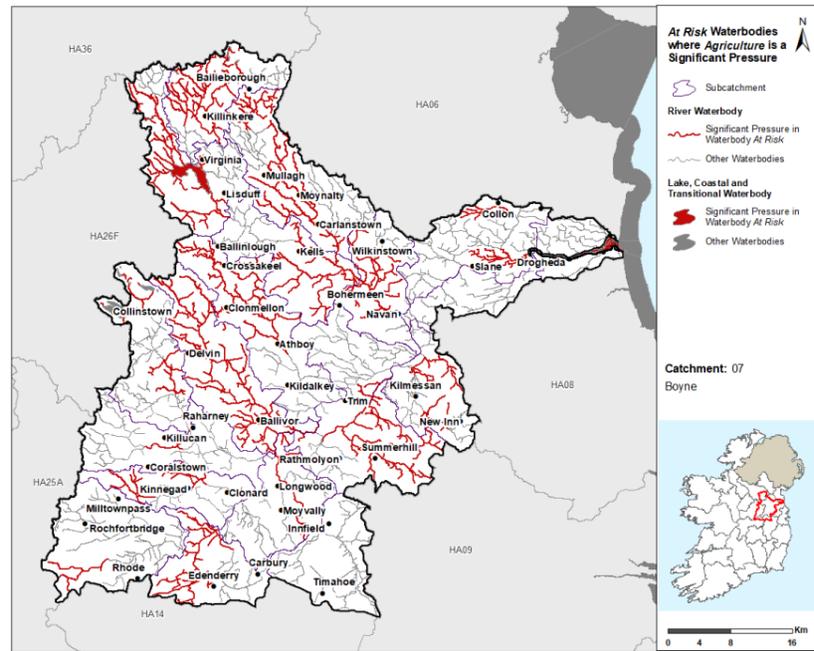


Figure 15: Locations of Waterbodies where Agriculture is a Significant Pressure

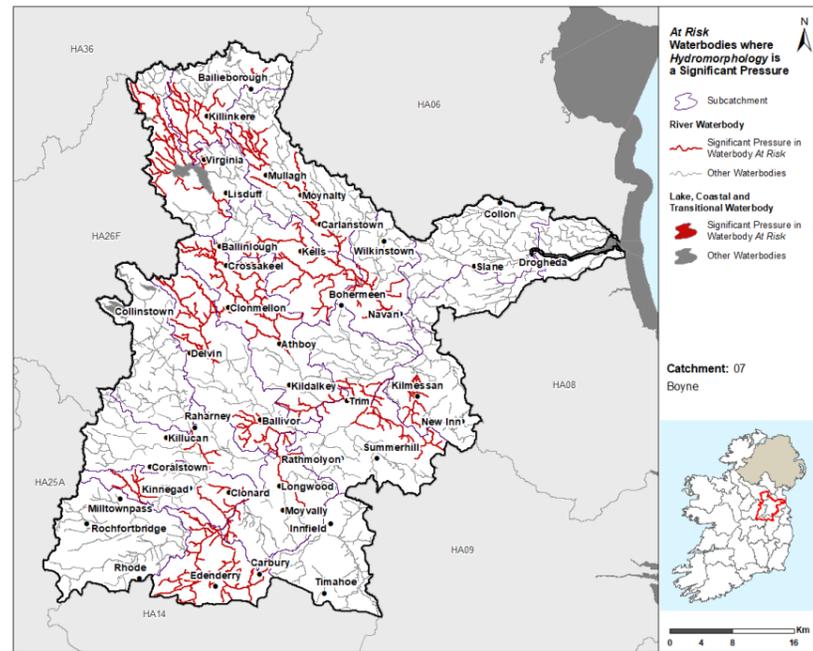


Figure 16: Locations of Waterbodies where Hydromorphology is a Significant Pressure

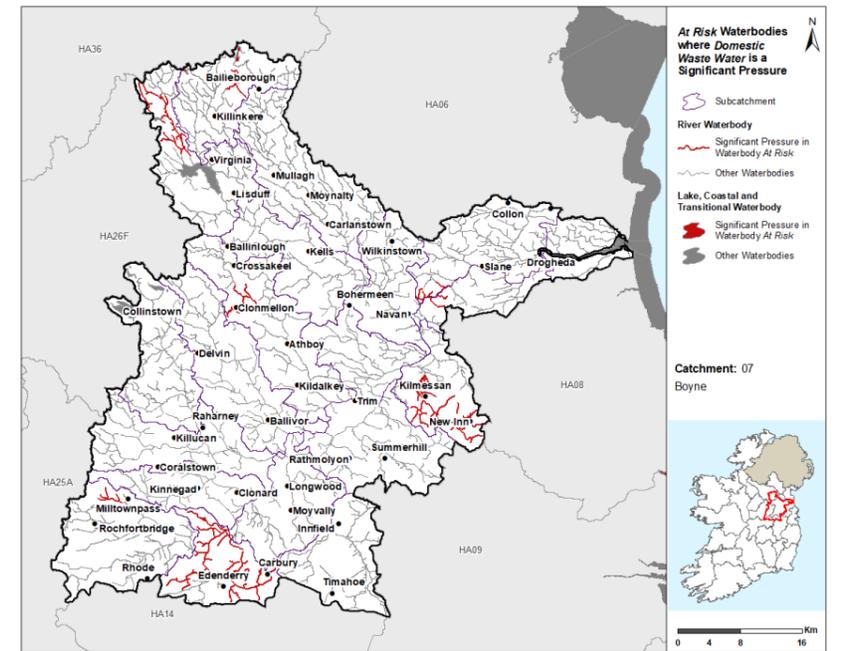


Figure 17: Locations of Waterbodies where Domestic Waste Water is a Significant Pressure

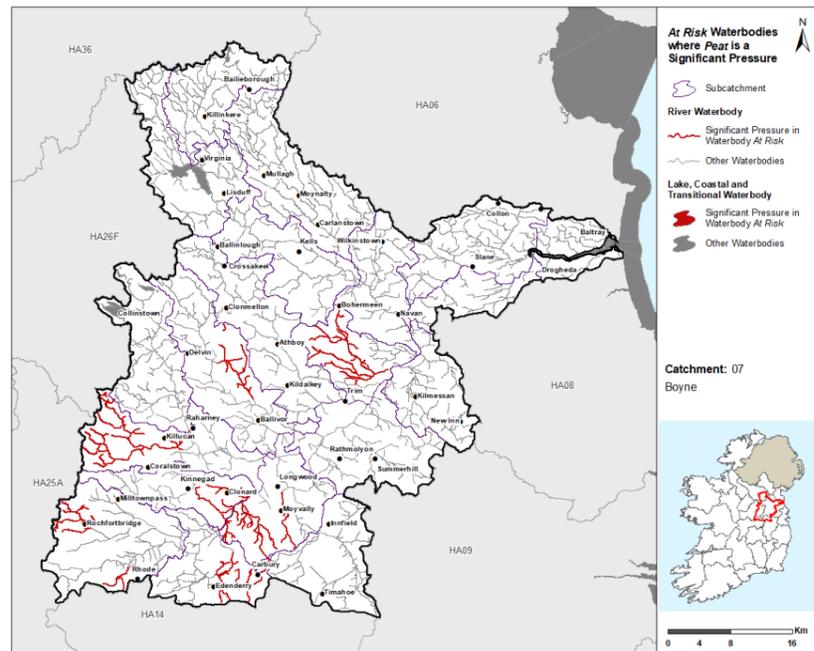


Figure 18: Locations of Waterbodies where Peat is a Significant Pressure

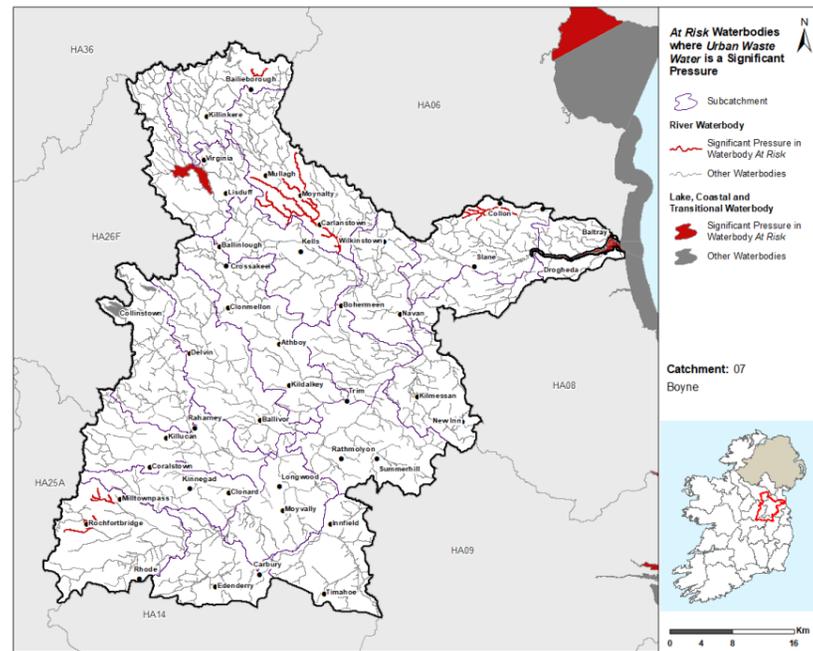
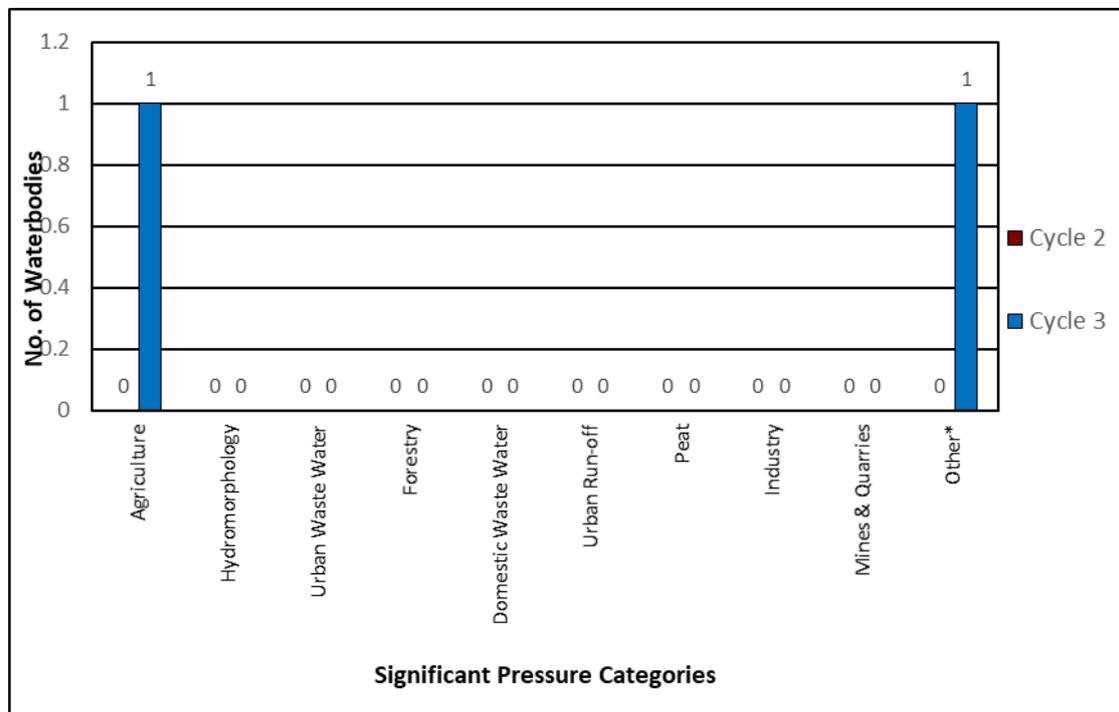


Figure 19: Locations of Waterbodies where Urban Waste Water is a Significant Pressure

5.2 High Status Objective Waterbodies

- ◆ Agriculture is also the significant pressure in one (Chapel Lake Stream_010) of the two High Status Objective waterbodies currently *At Risk*. Bane Noggin Hill lake waterbody is impacted by an abstraction (water supply) pressure as well as an unknown pressure type which both fall under the other category in Figure 20.



*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 20: 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 as illustrated in Figure 21.
- ◆ 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 and arable land is responsible for 76% and 16% of the nitrogen load respectively while land in pasture, discharges from urban waste water and diffuse urban sources contribute 40%, 23% and 10% of the phosphorus loadings for the catchment respectively (Figure 17).

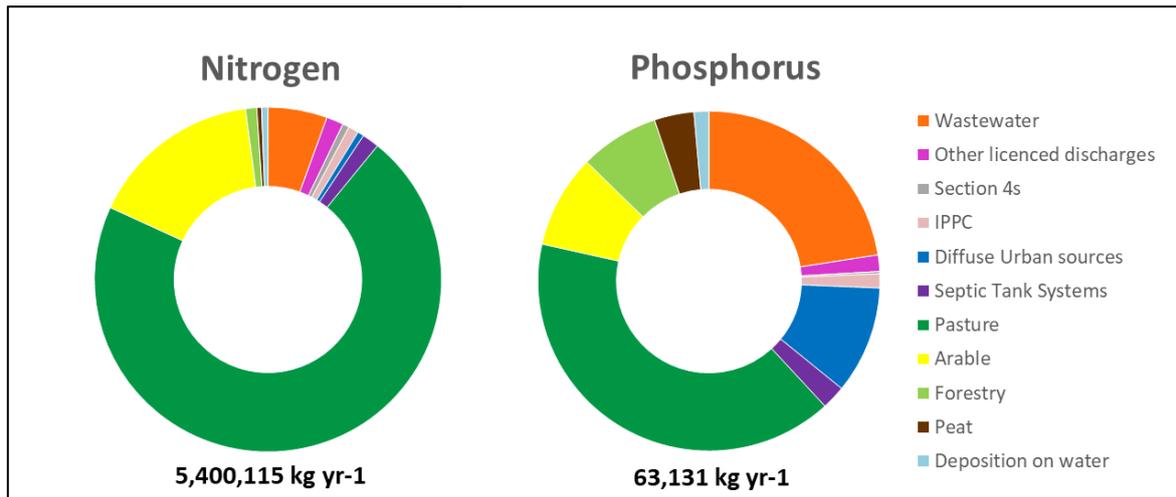


Figure 21: Estimated Proportions of N & P from Each Sector in the Boyne Catchment

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 Boyne Catchment is considered to be high and ranges from 500-2000 t N/yr.
- ◆ Source load apportionment modelling indicates that the main sources of N in the catchment are 72% pasture, 16% arable, 6% Urban waste water and 6% from miscellaneous sources.

7.2 Phosphorus / Sediment Load Reduction

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

Figure 22 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.

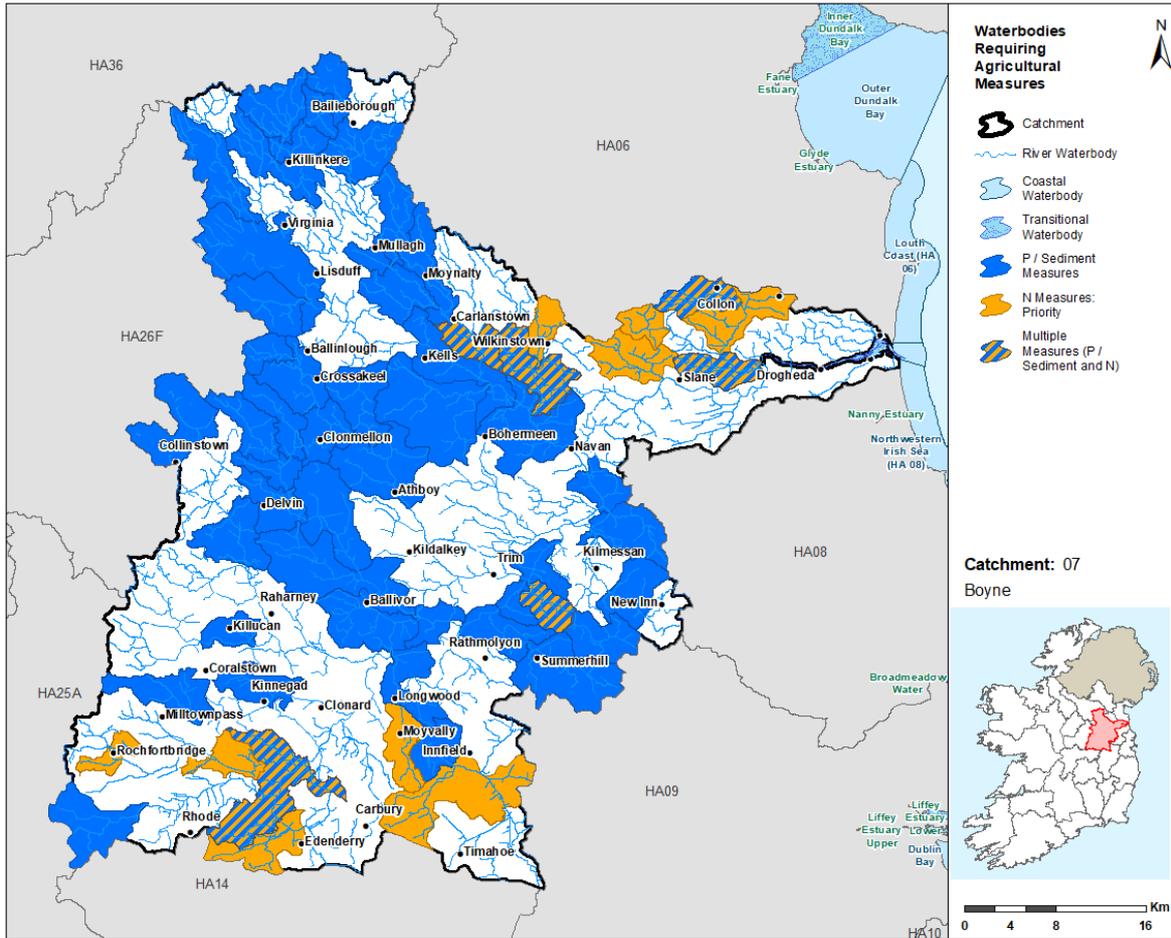


Figure 22: Waterbodies where Agricultural Measures should be Targeted

8 2nd Cycle Areas for Action

8.1 Area for Action Overview

- ◆ There were six 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 6 and shown in Figure 23. LAWPRO, in conjunction with local authorities and stakeholders from the Midlands and Eastern Regional Operational Committee, have been working in these areas since 2018.

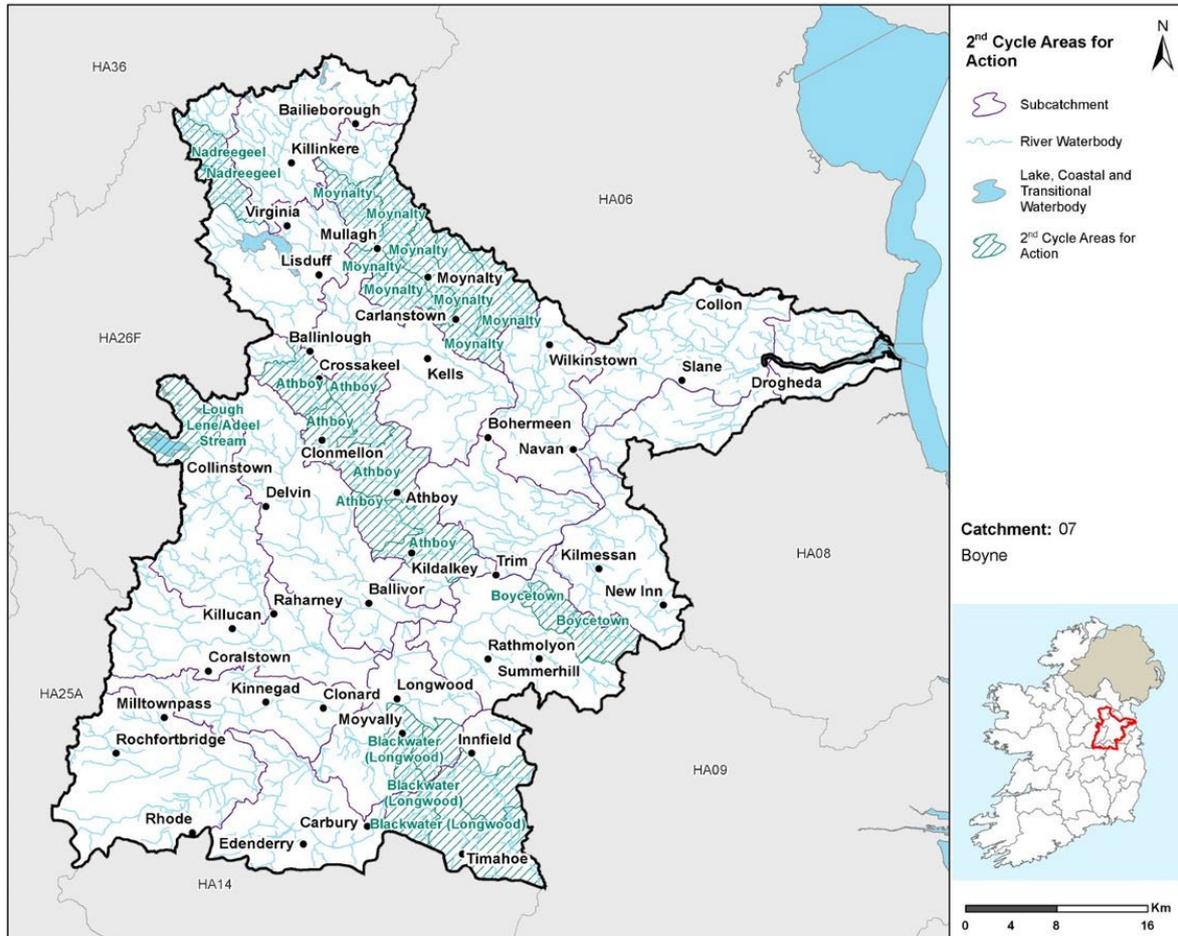


Figure 23: 2nd Cycle Areas for Action Locations

Table 6: 2nd Cycle Areas for Action

2 nd Cycle Area for Action	Number of Waterbodies	Sub-catchment	Local Authority	Reason for Selection
Moynalty	8	07_14	Meath	<ul style="list-style-type: none"> • Salmonid river. • Potential for 'quick wins'. • Possible high nitrate areas which would help with TraC water nitrate reduction requirement. • Four deteriorated water bodies.
Lough Lene	1	07_7	Westmeath	<ul style="list-style-type: none"> • Headwaters to Lough Lene which has heritage values and is a popular designated bathing location. • Deteriorated waterbody. • Lough Lene failed to meet protected area objective for drinking water.
Boycetown	2	07_20	Meath	<ul style="list-style-type: none"> • Build on work completed by Meath County Council – stream walks completed on the lower portion: ~80 cattle access points were identified. • Two deteriorated water bodies.
Athboy	6	07_13	Meath	<ul style="list-style-type: none"> • Headwater tributaries to the Boyne main channel. • Long term challenge - five of the six water bodies are <i>At Risk</i>. • Building on work completed by Meath County

2 nd Cycle Area for Action	Number of Waterbodies	Sub-catchment	Local Authority	Reason for Selection
				Council to reduce nutrient concentrations in the river waterbody. <ul style="list-style-type: none"> • One deteriorated water body.
Nadreegeel	2	07_10	Cavan	<ul style="list-style-type: none"> • Cavan/Monaghan lakes scenario project. • Headwaters to Nadreegeel Lough. • Potential 'quick win'. • Building on existing work completed by Cavan Co. • Will provide insight into question regarding river monitoring stations downstream of failing lakes. • A group water scheme here abstracts immediately upstream. • Public water abstraction. • One deteriorated waterbody.
BLACKWATER (LONGWOOD)	4	07_16 07_6	Kildare Meath	<ul style="list-style-type: none"> • Building on work completed by Kildare County Council. • Opportunity to address spikes in ammonia from peat. • Headwaters of Blackwater (Longwood). • Opportunity to work with Bord naMona (BnM) and Office of Public Works (OPW).

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 11 waterbodies at Moderate Status, eight waterbodies at Poor Status and four waterbodies where status has not been assigned.
- ◆ There is an overall improvement in the status of one of the 2nd cycle Areas for Action waterbodies across the catchment.⁶
- ◆ Of the 19 waterbodies within the 2nd Cycle Areas for Action which had status assigned, 10 experienced no change in status between Cycle 2 and Cycle 3, five waterbodies (Boycetown_020, Lough Lene-Adeel Stream_010, Moynalty_050, Moynalty_060 & Nadreegeal) experienced an improvement and four river waterbodies (Athboy_040, Moynalty_020, Mullagh Lough Stream_010 & Nadreegeel Lough Stream_020) was subject to deterioration in status (Figure 24). The waterbody improvements were across Boycetown, Lough Lene/ Adeel Stream, Moynalty and Nadreegal Areas for Action. The waterbody which experienced decline were in Athboy, Moynalty and Nadreegal Areas for Action.

⁶ 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.

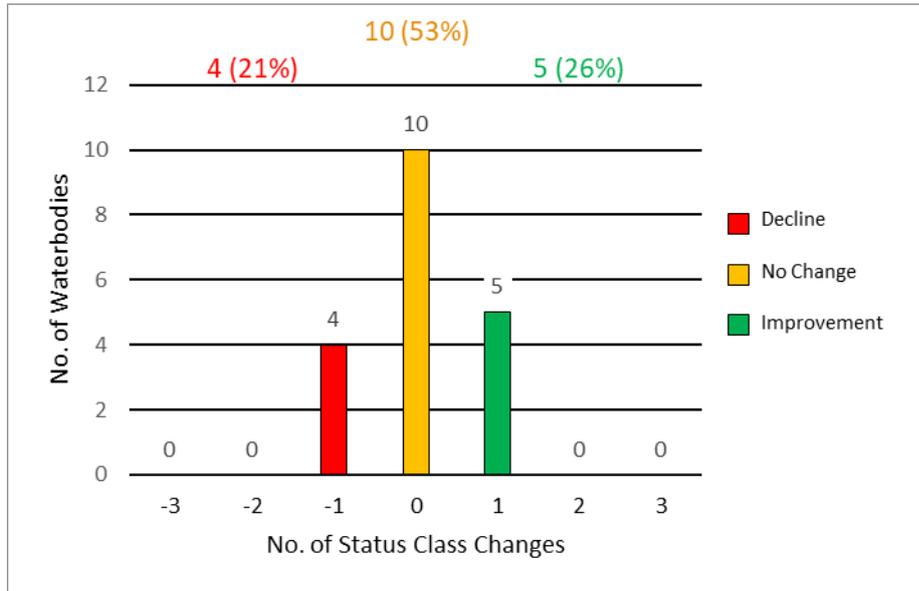


Figure 24: 2nd Cycle Area for Action Waterbody Status Class Changes between Cycle 2 and Cycle 3

8.3 Waterbody Risk in 2nd Cycle Areas for Action

- ◆ For the 23 waterbodies in the 2nd Cycle Areas for Action, 19 (83%) of these are currently *At Risk* and four (17%) in *Review*.
- ◆ For the 22 river waterbodies, 18 (82%) are *At Risk* and four (18%) are in *Review*.
- ◆ The only lake waterbody (Nadregal) in a 2nd Cycle Area for Action is *At Risk*.
- ◆ The largest proportion of *At Risk* waterbodies are found in river waterbodies, accounting for 18 (95%) of 19 *At Risk* waterbodies. Figure 25 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 20 to 19 *At Risk* waterbodies in 2nd Cycle Areas for Action between Cycle 2 and Cycle 3. Athboy_060 river waterbody was previously *At Risk* but is now in *Review*.

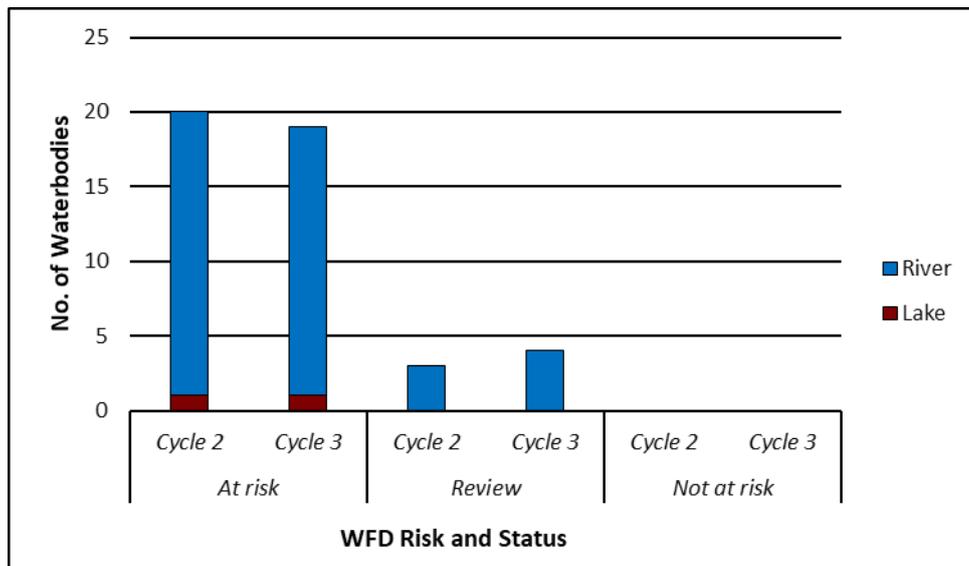
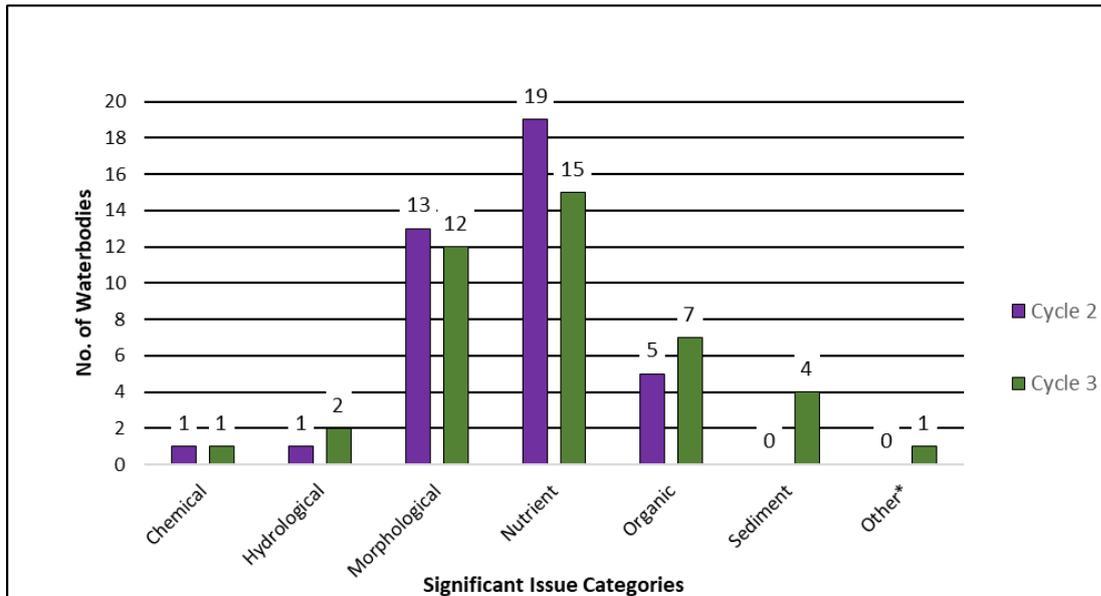


Figure 25: Number of waterbodies in each risk category in 2nd Cycle Areas for Action

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 15 waterbodies (Figure 26). This is followed by morphological issues which are impacting 12 waterbodies, organic pollution impacting seven waterbodies and sediment impacting four waterbodies.
- ◆ The number of 2nd Cycle Areas for Action waterbodies associated with nutrient and morphological significant issues have reduced from 19 to 15 and 13 to 12, respectively, between Cycle 2 and Cycle 3. Sediment is now deemed to be impacting four waterbodies where it was not deemed an issue in any waterbodies in Cycle 2.

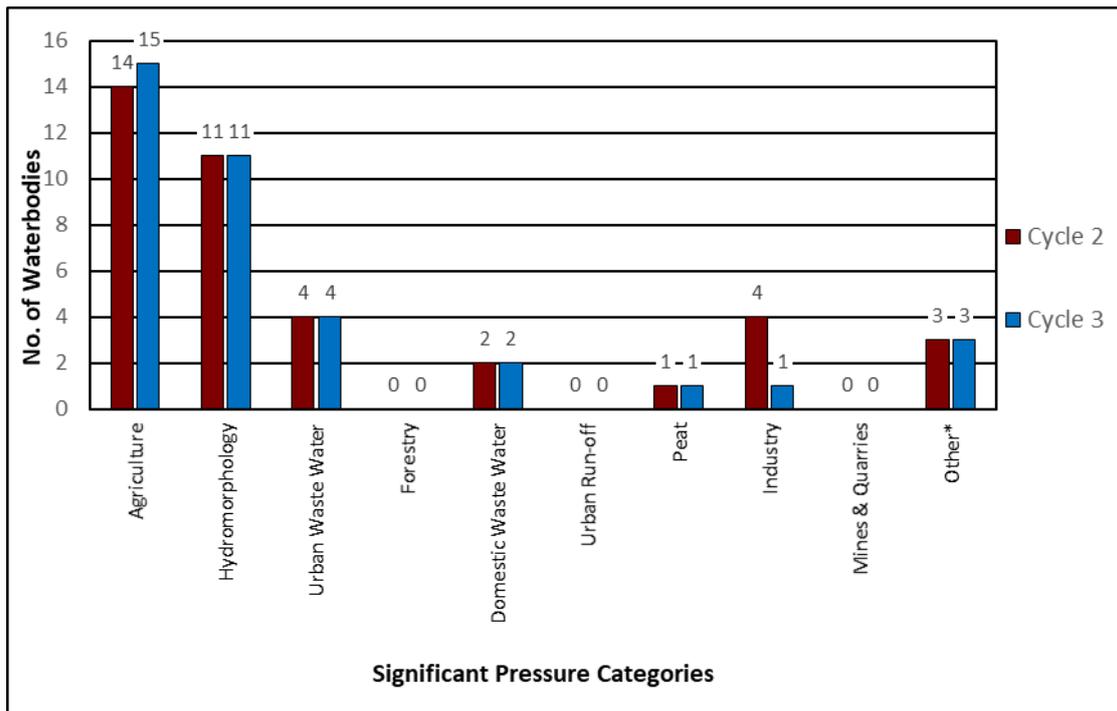


*Other - Acidification, saline intrusion, elevated temperature, litter, microbiological pollution and unknown impacts have all been grouped into the "Other" issues category for the purpose of this report

Figure 26: 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, the dominant significant pressures are:
 - Agriculture - 15 waterbodies impacted in Cycle 3, compared to 14 in Cycle 2.
 - Hydromorphology – 11 waterbodies remain impacted in Cycle 3.
 - Urban Waste Water – four waterbodies remain impacted in Cycle 3.
 - Domestic Waste Water - two waterbodies (Athboy_030 & Nadreegeel Lough Stream_020) remain impacted in Cycle 3.
 - Industry - one waterbody (Moynalty_030) is impacted in Cycle 3 compared to four waterbodies impacted in Cycle 2.
 - Peat – one waterbody (Blackwater (Longwood)_040) remains impacted in Cycle 3.
 - Other - In three waterbodies, Blackwater (Longwood)_010, Blackwater (Longwood)_020 & Blackwater (Longwood)_040 the significant pressure type is unknown, as was the case in Cycle 2.
- ◆ When comparing the significant pressures in the 2nd Cycle Areas for Action between Cycle 2 and 3 there has been no change in the number of waterbodies affected by each significant pressure category in the catchment with the exception of agriculture and industry pressures which increased by one and decreased by three 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 27: 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 23 Areas for Action, comprising of 108 waterbodies, recommended for further characterisation and action in the catchment for the 3rd Cycle River Basin Management Plan. 75 of the 108 waterbodies in the 3rd Cycle Areas for Action are *At Risk*, 20 are in *Review* and 13 are *Not At Risk*. The 23 Areas for Action consist of one Area for Protection, 20 Areas for Restoration and two Areas for Catchment Projects. LAWPRO are the proposed lead organisation in 13 Areas for Action, Meath County Council are the proposed lead in six Recommended Areas for Action. NFGWS, IFI and Offaly County Council have each been proposed to lead one Recommended Areas for Action. GSI, EPA and Irish Water are the proposed joint leads in the Bettystown Catchment Research Project. The Recommended Areas for Action in the catchment are listed in Table 7 and shown in Figure 28. The reason for selecting each waterbody in a Recommended Area for Action is provided in Appendix 3.

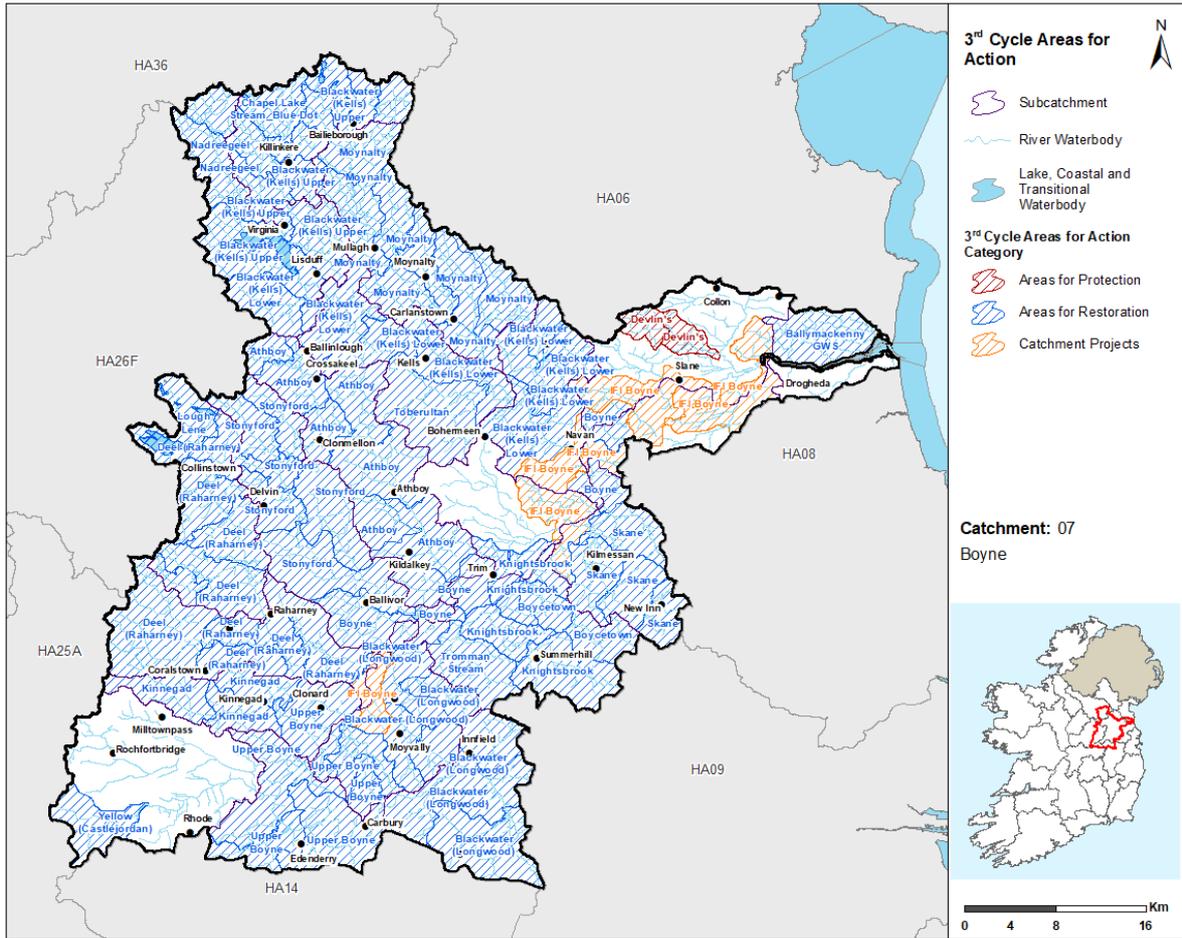


Figure 28: 3rd Cycle Recommended Areas for Action Locations

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
Athboy	7	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Moynalty	9	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Blackwater (Kells) Upper	13	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Blackwater (Kells) Lower	8	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Blackwater (Longwood)	7	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Boycetown	2	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Upper Boyne	6	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
IFI Boyne	7	Catchment Projects	Public Body Research	IFI
Boyne	5	Restoration	LA Areas for Restoration Local Authorities	Meath County Council
Knightsbrook	5	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO

3rd Cycle Recommended Areas for Action	Number of Waterbodies	Recommended Areas for Action Category	Recommended Areas for Action Sub-category	Lead Organisation
Deel (Raharney)	10	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Chapel Lake Stream_Blue Dot	1	Restoration	Blue Dot Areas for Action LAWPRO and Others	LAWPRO
Stonyford	6	Restoration	LA Areas for Restoration Local Authorities	Meath County Council
Devlin's	2	Protection	LA Areas for Protection Local Authorities	Meath County Council
Kinnegad	3	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Lough Lene	5	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Nadreegeel	3	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Skane	4	Restoration	LA Areas for Restoration Local Authorities	Meath County Council
Tromman Stream	1	Restoration	LA Areas for Restoration Local Authorities	Meath County Council
Toberultan	1	Restoration	LA Areas for Restoration Local Authorities	Meath County Council
Ballymackenny GWS	1	Restoration	Public Health Areas for Restoration NFGWS, IW, HSE, LAs, SFPA	NFGWS
Yellow (Castlejordan)	1	Restoration	LA Areas for Restoration Local Authorities	Offaly County Council
Bettystown GW	1	Catchment Projects	Public Body Research	GSI and EPA and IW

10 Catchment Summary

- Of the 116 river waterbodies, 75 are *At Risk* of not meeting their WFD objectives.
- Seven out of 11 lake waterbodies are *At Risk* of not meeting their WFD objectives.
- Boyne Estuary transitional waterbody is *At Risk* and impacted by eutrophication. Agriculture and the Drogheda WWTP are the significant pressures.
- One coastal waterbody (Boyne Estuary Plume Zone) out of the three in the catchment are *At Risk*.
- There are nine *At Risk* groundwater bodies out of 41 groundwater bodies.
- There has been an overall deterioration across the catchment with 93 waterbodies *At Risk* in Cycle 3 compared to 81 waterbodies *At Risk* in Cycle 2.
- The main significant issues are impacts from nutrient pollution, followed by morphological impacts, organic pollution, sediment and hydrological impacts.
- The main significant pressures are agricultural pressures followed by hydromorphological pressures, domestic waste water, peat and urban waste water pressures.
- The main impacts and pressures driving the change between Cycle 2 and Cycle 3 are increases in waterbodies impacted by nutrient pollution particularly from agricultural sources. There has also been a notable increase in hydromorphological issues, however, this is likely due to an increase in awareness and an improved evidence-base around hydromorphological pressures rather than new pressures.
- There was an overall improvement in the 2nd Cycle Areas for Action since Cycle 2. 20 waterbodies were *At Risk* in Cycle 2 and 19 waterbodies are *At Risk* in Cycle 3. These

improvements have occurred in waterbodies where forestry was a significant pressure in Cycle 2 but are no longer a significant pressure in Cycle 3.

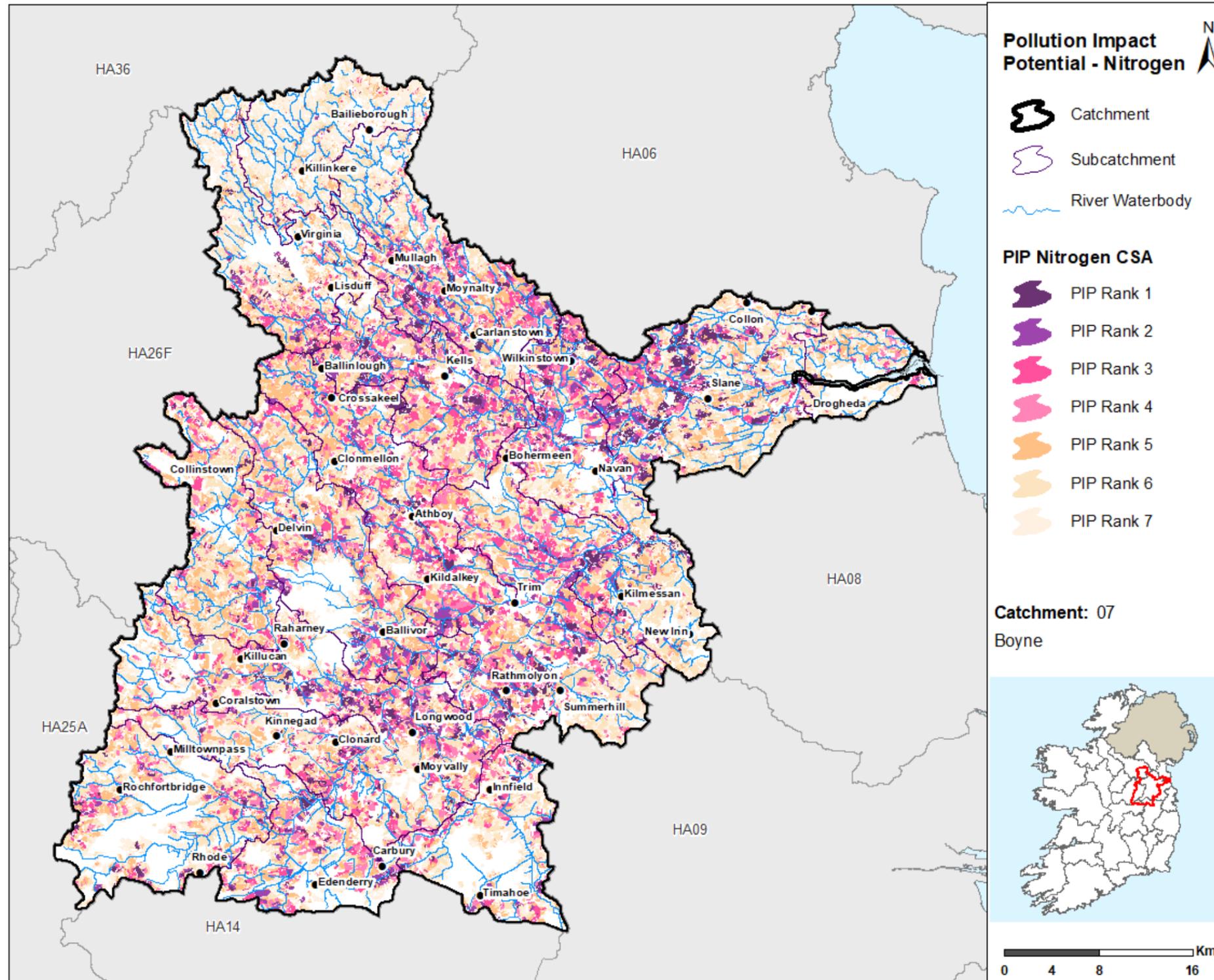
- There are 23 3rd Cycle Recommended Areas for Action for Cycle 3. They comprise of 108 waterbodies with 75 waterbodies *At Risk*, 20 in *Review* and 13 *Not At Risk*.

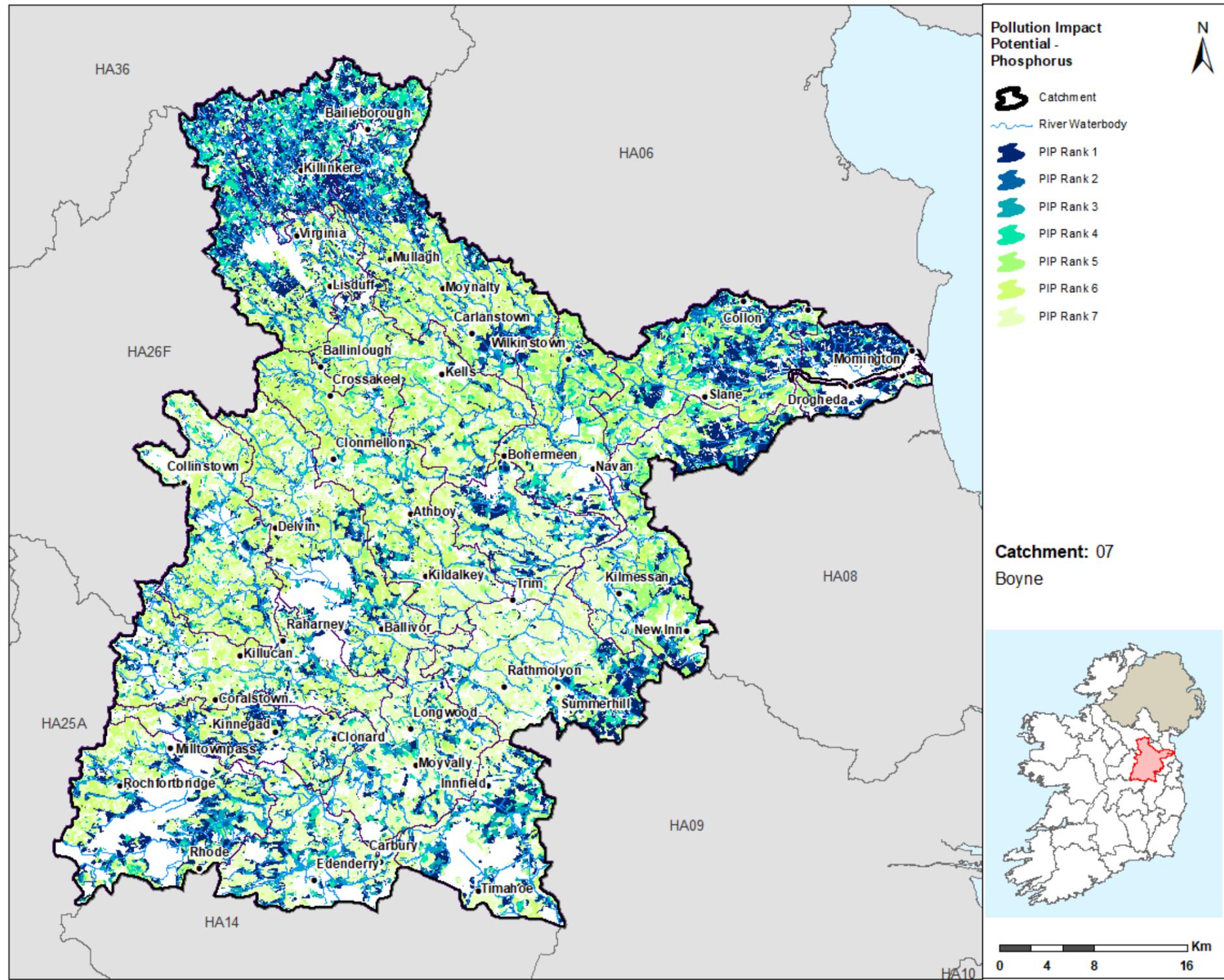
Appendix 1

High ecological status objective waterbodies

Waterbody Name	Waterbody Type	Waterbody Code	Status 2013-2018
Bane Noggin Hill	Lake	IE_EA_07_270	Good
Chapel Lake Stream_010	River	IE_EA_07C050700	Good
Northwestern Irish Sea (HA 08)	Coastal	IE_EA_020_0000	High

Appendix 2 Pollution Impact Potential Mapping





Appendix 3

Summary information on all waterbodies in the Boyne 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 Areas for Action (reasons for selection)
	IE_07_AWB_GCMLW	Grand Canal Main Line (Boyne)	River		Not at risk	Good	Good	No			
	IE_07_AWB_RCMLW	Royal Canal Main Line (Boyne)	River		Not at risk	Good	Good	No			
07_13	IE_EA_07A010020	ATHBOY_010	River	Not at risk	At risk	Good	Moderate	No	Ag, Hymo	Athboy	deteriorated WB, headwaters of existing PAA - expand PAA to include. 2027 EO Ag; hymo significant pressures
07_13	IE_EA_07A010050	ATHBOY_020	River	At risk	At risk	Moderate	Moderate	No	Ag, Hymo	Athboy	existing PAA - Further characterisation yet to commence. Not meeting protected area objective. Ag and hymo significant pressures. 2027 EO
07_13	IE_EA_07A010070	ATHBOY_030	River	At risk	At risk	Moderate	Moderate	No	Ag, DWW, Hymo	Athboy	existing PAA - Further characterisation yet to commence Not meeting protected area objective. Ag, DWWTS and hymo significant pressures. 2027 EO
07_13	IE_EA_07A010100	ATHBOY_040	River	At risk	At risk	Moderate	Poor	No	Ag, Hymo	Athboy	existing PAA - Further characterisation yet to commence. Not meeting protected area objective. Ag and hymo significant pressures. 2027 EO
07_13	IE_EA_07A010300	ATHBOY_050	River	At risk	At risk	Moderate	Moderate	No	Ag, Hymo	Athboy	existing PAA - Further characterisation yet to commence. Not meeting protected area objective. Ag and hymo significant pressures. 2027 EO
07_13	IE_EA_07A010500	ATHBOY_060	River	At risk	Review	Moderate	Moderate	No		Athboy	existing PAA - Further characterisation yet to commence. Not meeting protected area objective. UWW and hymo significant pressures. 2027 EO
07_14	IE_EA_07A200940	AGHNANEANE_or_HE RMITAGE_010	River	Review	Review	Unassigned	Unassigned	No		Moynalty	Existing PAA - unassigned WB to undertake further characterisation in 3rd cycle

07_5	IE_EA_07B010100	BLACKWATER (KELLS)_010	River	Not at risk	Not at risk	Good	Good	No		Blackwater (Kells) Upper	Included under SC approach alongside M&E suggestions
07_5	IE_EA_07B010170	BLACKWATER (KELLS)_020	River	At risk	At risk	Moderate	Poor	No	Hymo, UR, UWW	Blackwater (Kells) Upper	Included under SC approach alongside M&E suggestions
07_5	IE_EA_07B010280	BLACKWATER (KELLS)_030	River	At risk	At risk	Poor	Poor	No	Ag	Blackwater (Kells) Upper	Included under SC approach alongside M&E suggestions
07_5	IE_EA_07B010420	BLACKWATER (KELLS)_040	River	At risk	At risk	Moderate	Moderate	No	Ag, DWW	Blackwater (Kells) Upper	Included under SC approach alongside M&E suggestions
07_5	IE_EA_07B010500	BLACKWATER (KELLS)_050	River	Not at risk	At risk	Good	Poor	No	Ag, Hymo	Blackwater (Kells) Upper	Included under SC approach alongside M&E suggestions
07_5	IE_EA_07B010600	BLACKWATER (KELLS)_060	River	Not at risk	At risk	Good	Moderate	No	Ag, Hymo	Blackwater (Kells) Upper	Included under SC approach alongside M&E suggestions
07_5	IE_EA_07B010800	BLACKWATER (KELLS)_070	River	Review	At risk	Moderate	Moderate	No	Hymo, Other	Blackwater (Kells) Upper	Included under SC approach alongside M&E suggestions
07_10	IE_EA_07B011000	BLACKWATER (KELLS)_080	River	At risk	At risk	Poor	Moderate	No	Ag, Hymo	Blackwater (Kells) Upper	At Risk River Blackwater Moderate Status
07_8	IE_EA_07B011100	BLACKWATER (KELLS)_090	River	At risk	Not at risk	Moderate	Good	No		Blackwater (Kells) Lower	To complete sub catchment
07_8	IE_EA_07B011200	BLACKWATER (KELLS)_100	River	At risk	At risk	Moderate	Moderate	No	Hymo	Blackwater (Kells) Lower	At Risk to complete sub catchment 2027 EO hymo significant pressure
07_8	IE_EA_07B011500	BLACKWATER (KELLS)_110	River	At risk	At risk	Poor	Moderate	No	Ag, Hymo	Blackwater (Kells) Lower	At Risk to complete sub catchment 2027 EO UWWT, hymo significant pressures
07_18	IE_EA_07B011800	BLACKWATER (KELLS)_120	River	At risk	At risk	Moderate	Poor	No	Ag, Hymo, UR	Blackwater (Kells) Lower	IW Treatment & Management: Turbidity & nutrients. EPA Pesticide Act and Watch list - Watch. Pesticide issue but also nutrient/sediment; treatment and management issues with this. 2027 EO Ag significant pressure
07_6	IE_EA_07B020060	BLACKWATER (LONGWOOD)_010	River	At risk	At risk	Poor	Poor	No	Other	Blackwater (Longwood)	existing PAA - Further characterisation to commence Anthropogenic Pressures 2027 EO
07_6	IE_EA_07B020100	BLACKWATER (LONGWOOD)_020	River	At risk	At risk	Moderate	Moderate	No	Other	Blackwater (Longwood)	existing PAA - Further characterisation to commence Anthropogenic Pressures 2027 EO
07_16	IE_EA_07B020200	BLACKWATER (LONGWOOD)_030	River	At risk	At risk	Unassigned	Unassigned	No	Ag	Blackwater (Longwood)	Existing PAA - unassigned WB. Further characterisation to commence. Ag and UWW Significant pressures Poor drainage - beyond 2027 EO
07_16	IE_EA_07B020300	BLACKWATER (LONGWOOD)_040	River	At risk	At risk	Moderate	Moderate	No	Other, Peat	Blackwater (Longwood)	Existing PAA - Further characterisation to commence Anthropogenic and Peat Pressures 2027 EO

07_16	IE_EA_07B020600	BLACKWATER (LONGWOOD)_050	River	At risk	At risk	Moderate	Moderate	No	Ag, Hymo	Blackwater (Longwood)	Expand PAA to include - same trib. Multi-pressures: agriculture, hydromorphology and UWWT. 2027 EO
07_20	IE_EA_07B030200	BOYCETOWN_010	River	At risk	At risk	Poor	Poor	No	Ag, Hymo	Boycetown	Existing PAA. Transition strategy to be developed.
07_20	IE_EA_07B030300	BOYCETOWN_020	River	At risk	At risk	Poor	Moderate	No	Ag, Hymo	Boycetown	Existing PAA. Transition strategy to be developed.
07_4	IE_EA_07B040200	BOYNE_010	River	At risk	At risk	Moderate	Moderate	No	DWW, Hymo, Peat	Upper Boyne	DWW, hymo, peat significant pressures Fish ONM 2027 EO Was not included in 2nd cycle Proposed by KE Biological rating Q4 last achieved in 2009. Has remained at Q3-4 for each subsequent assesment. Likely to be a more difficult waterbody to make progress in as water quality is influenced by peat. IFI Research
07_4	IE_EA_07B040300	BOYNE_020	River	At risk	At risk	Moderate	Moderate	No	Ag, Hymo, UR	Upper Boyne	DWW, hymo,URO, UWW significant pressures Fish ONM 2027 EO Was not included in 2nd cycle Proposed by OY 1. Human Health (PWS at Trim) 2. Salmonid River 3.Headwaters, 4. Building on improvements IFI Research
07_4	IE_EA_07B040400	BOYNE_030	River	Not at risk	At risk	Good	Moderate	No	Ag, DWW, Hymo	Upper Boyne	IFI research Ag, DWW, hymo significant pressures Fish ONM 2027 EO Added to complete subcatchment.
07_16, 07_2	IE_EA_07B040600	BOYNE_040	River	At risk	At risk	Moderate	Moderate	No	Hymo, M+Q, Peat	Upper Boyne	Add to Upper Boyne IFI research Hymo, MQ, Peat significant pressures Fish ONM 2027 EO
07_16, 07_9	IE_EA_07B040800	BOYNE_050	River	Not at risk	Not at risk	Good	Good	No		IFI Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the

											national river water temperature monitoring network. IFI will also examine impacts of drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected.
07_12, 07_16	IE_EA_07B040900	BOYNE_060	River	At risk	At risk	Moderate	Good	No	Ag, Hymo	Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the national river water temperature monitoring network. IFI will also examine impacts of drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected. MH to take lead following discussions
07_12, 07_20	IE_EA_07B041000	BOYNE_070	River	Not at risk	At risk	Good	Moderate	No	Ag	Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the national river water temperature monitoring network. IFI will also examine impacts of drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected. MH to take lead following discussions
07_13, 07_20	IE_EA_07B041200	BOYNE_080	River	At risk	At risk	Moderate	Moderate	No	Hymo	Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the national river water temperature monitoring network. IFI will also examine impacts of

											drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected. MH to take lead following discussions
07_20, 07_3	IE_EA_07B041400	BOYNE_090	River	At risk	At risk	Moderate	Moderate	No	Hymo, UR	Knightsbrook	URO, hymo significant pressures SAC and Fish ONM IFI research To complete subcatchment
07_20, 07_3	IE_EA_07B041500	BOYNE_100	River	At risk	At risk	Moderate	Moderate	No	Ag, Hymo	Knightsbrook	Ag, hymo significant pressures SAC and Fish ONM DWPA 2027 EO IFI research To complete subcatchment
07_19, 07_3	IE_EA_07B041600	BOYNE_110	River	Review	Review	Unassigned	Unassigned	No		IFI Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the national river water temperature monitoring network. IFI will also examine impacts of drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected.
07_18, 07_19	IE_EA_07B041700	BOYNE_120	River	At risk	Review	Moderate	Good	No		Boyne	Boyne Navagation/ Eel Weirs 20 Structures, Migration - Salmon/ River lamprey IFI research
07_1, 07_18	IE_EA_07B041810	BOYNE_130	River	Not at risk	Not at risk	Unassigned	Unassigned	No		IFI Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the national river water temperature monitoring network. IFI will also examine impacts of drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has

											not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected.
07_1, 07_18	IE_EA_07B041900	BOYNE_140	River	Not at risk	Review	Unassigned	Unassigned	No		IFI Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the national river water temperature monitoring network. IFI will also examine impacts of drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected.
07_1, 07_15	IE_EA_07B042010	BOYNE_150	River	At risk	At risk	Moderate	Moderate	No	DWW, Other	Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the national river water temperature monitoring network. IFI will also examine impacts of drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected.
07_1, 07_15	IE_EA_07B042100	BOYNE_160	River	At risk	Review	Moderate	Good	No		IFI Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the national river water temperature monitoring network. IFI will also examine impacts of drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected.
07_1, 07_15	IE_EA_07B042150	BOYNE_170	River	Not at risk	Review	Good	Good	No		IFI Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The

											Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the national river water temperature monitoring network. IFI will also examine impacts of drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected.
07_1, 07_15	IE_EA_07B042200	Boyne_180	River	Not at risk	Not at risk	Good	Good	No		IFI Boyne	IFI are starting a new project in the Boyne catchment in 2021, this is part of a larger national climate change mitigation project. The Boyne catchment has been selected as one of the index catchments in the project (with funding from OPW) and will be part of the national river water temperature monitoring network. IFI will also examine impacts of drought and other climate related issues impacting fish species in the catchment. The waterbodies have not been identified as yet where loggers and fieldwork will be placed has not been identified but research work is at the catchment rather than the sub-catchment scale, therefore multiple waterbodies were selected.
07_9	IE_EA_07B340940	BALLYHAW_010	River	Review	Review	Unassigned	Unassigned	No		Deel (Raharney)	Add to complete sub catchment
07_3	IE_EA_07C010100	CLADY (MEATH)_010	River	At risk	At risk	Unassigned	Unassigned	No	Peat		
07_3	IE_EA_07C010260	CLADY (MEATH)_020	River	At risk	At risk	Poor	Poor	No	Peat		
07_10	IE_EA_07C020930	CROSS WATER_010	River	At risk	At risk	Moderate	Moderate	No	Ag	Blackwater (Kells) Lower	EPA proposed. At risk headwater.
07_15	IE_EA_07C030930	CASTLEPARKS_010	River	Review	Review	Unassigned	Unassigned	No			
07_11	IE_EA_07C040050	CASTLEJORDAN_010	River	At risk	At risk	Poor	Poor	No	Peat, UR, UWW		
07_11	IE_EA_07C040100	CASTLEJORDAN_020	River	At risk	Review	Moderate	Good	No			
07_11	IE_EA_07C040190	CASTLEJORDAN_030	River	Not at risk	Not at risk	Good	Good	No			
07_5	IE_EA_07C050700	CHAPEL LAKE STREAM_010	River	Not at risk	At risk	High	Good	Yes	Ag	Chapel Lake Stream_Blue Dot	Blue Dot headwater of Blackwater (Kells) recommended PAA
07_12	IE_EA_07C070055	CROSSKEYS STREAM_010	River	Not at risk	At risk	Good	Moderate	No	Ag, Hymo	Stonyford	At Risk WB SAC not meeting objective To complete sub-catchment MH to consider in conjunction with Stonyford WBs
07_11	IE_EA_07C080190	CASTLETOWN TARA STREAM_010	River	At risk	At risk	Unassigned	Unassigned	No	Peat		
07_6	IE_EA_07C220690	CLONCURRY_010	River	Review	Review	Unassigned	Unassigned	No		Blackwater (Longwood)	Expand PAA Unassigned WB feeding Blackwater (Longwood)_020

07_7	IE_EA_07D010070	DEEL (RAHARNEY)_010	River	Not at risk	Not at risk	Good	Good	No		Deel (Raharney)	Split sub-catchment 07_7 into Lough Lene (plus lakes) and the Adeel stream PAA and the Deel (Raharney) PAA. Include headwaters. NPWS IE0002120 - Lough Bane and Lough Glass SAC. Austropotamobius pallipes. Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.
07_7	IE_EA_07D010080	DEEL (RAHARNEY)_020	River	Review	Review	Unassigned	Unassigned	No		Deel (Raharney)	unassigned WB. Include in sub catchment.
07_7	IE_EA_07D010200	DEEL (RAHARNEY)_030	River	Not at risk	At risk	Good	Moderate	No	Ag	Deel (Raharney)	SAC ONM Ag significant pressure 2027 EO Deteriorated WB; SAC NMO; Ag only significant pressure
07_7	IE_EA_07D010300	DEEL (RAHARNEY)_040	River	Not at risk	Not at risk	Good	Good	No		Deel (Raharney)	complete sub catchment
07_9	IE_EA_07D010400	DEEL (RAHARNEY)_050	River	At risk	At risk	Moderate	Moderate	No	Hymo	Deel (Raharney)	SAC ONM Hydromorphology significant pressure 2027 EO Inlcude in sub catchment
07_9	IE_EA_07D010600	DEEL (RAHARNEY)_060	River	At risk	Review	Moderate	Good	No		Deel (Raharney)	complete sub catchment
07_15	IE_EA_07D020140	DEVLIN'S_010	River	At risk	Not at risk	Moderate	Good	No		Devlin's	Catchment improved to Good Status following Meath CC efforts in 1st cycle (investigative surveys, farm surveys, engagement, enforcement and cross reporting to address identified pollutant sources from farms and OSWWTs) and Council is familiar with the pressures in catchment and well placed for future inspections/surveys to try to maintain Good Status.
07_15	IE_EA_07D020300	DEVLIN'S_020	River	Not at risk	Not at risk	Good	Good	No		Devlin's	Catchment improved to Good Status following Meath CC efforts in 1st cycle (investigative surveys, farm surveys, engagement, enforcement and cross reporting to address identified pollutant sources from farms and OSWWTs) and Council is familiar with the pressures in catchment and well placed for future inspections/surveys to try to maintain Good Status.
07_12	IE_EA_07D060030	D'ARCY'S CROSSROADS STREAM_010	River	At risk	At risk	Moderate	Moderate	No	Ag, Hymo	Stonyford	At Risk WB SAC not meeting objective To complete sub-catchment MH to consider in conjunction with Stonyford WBs
07_18	IE_EA_07D490060	DEMAILESTOWN_010	River	Review	Review	Unassigned	Unassigned	No		Blackwater (Kells) Lower	Add to PAA following inclusion at ROC

07_16	IE_EA_07G020400	GLASH_010	River	At risk	At risk	Poor	Poor	No	Peat	Upper Boyne	
07_16	IE_EA_07G020600	GLASH_020	River	At risk	At risk	Moderate	Moderate	No	Peat	Upper Boyne	
07_2	IE_EA_07K010060	KINNEGAD_010	River	At risk	At risk	Moderate	Moderate	No	Ag, Hymo	Kinnegad	Proposed by MH At risk WB 2027 EO Ag, Hymo
07_2	IE_EA_07K010100	KINNEGAD_020	River	At risk	Review	Moderate	Moderate	No		Kinnegad	Proposed by MH At risk WB 2027 EO Peat harvesting
07_2	IE_EA_07K010200	KINNEGAD_030	River	At risk	At risk	Moderate	Moderate	No	Ag	Kinnegad	Proposed by MH At risk WB 2027 EO Ag, UWWTP
07_20	IE_EA_07K020300	KNIGHTSBROOK_010	River	At risk	At risk	Poor	Poor	No	Ag, Ind, UR	Knightsbrook	Ag, industry, URO significant pressures Ag poor drainage - beyond 2027 EO Proposed by MH Previous investigations, farm and DWWTS work by Meath CC, poorly drained soils in upper half of catchment. Known to have poor water quality upstream of Summerhill. Similar to reasoning on Broadmeadow, perhaps LAWPRO investigations and approach with ASSAP can bring some new tools to bear.
07_20	IE_EA_07K020400	KNIGHTSBROOK_020	River	Not at risk	At risk	Good	Moderate	No	Ag	Knightsbrook	Ag significant pressure Ag poor drainage - beyond 2027 EO Proposed by MH Previous investigations, farm and DWWTS work by Meath CC, poorly drained soils in upper half of catchment. Known to have poor water quality upstream of Summerhill. Similar to reasoning on Broadmeadow, perhaps LAWPRO investigations and approach with ASSAP can bring some new tools to bear.
07_20	IE_EA_07K020500	KNIGHTSBROOK_030	River	At risk	At risk	Poor	Poor	No	Ag, Hymo	Knightsbrook	Ag, hymo significant pressures 2027 EO to complete sub catchment
07_7	IE_EA_07K330580	KILLYNAN_010	River	Review	Review	Unassigned	Unassigned	No		Deel (Raharney)	complete sub catchment Unassigned WB
07_13	IE_EA_07K410830	KNOCKSHANGAN_010	River	Review	Review	Unassigned	Unassigned	No		Athboy	Existing PAA - unassigned WB to undertake further characterisation in 3rd cycle Trib feeding Athboy_060
07_10	IE_EA_07L010100	LISLEA_010	River	Not at risk	Not at risk	Good	Good	No		Blackwater (Kells) Upper	Included under SC approach alongside M&E suggestions
07_7	IE_EA_07L030040	Lough Lene-Adeel Stream_010	River	At risk	At risk	Poor	Moderate	No	Ag	Lough Lene	Existing PAA; WB fed by L Lene; Ben Loughs, Bane Noggin Hill Expand PAA Ag significant pressure 2027 EO

												NPWS IE0002120 - Lough Bane and Lough Glass SAC. Austropotamobius pallipes. Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.
07_15	IE_EA_07M010100	MATTOCK_010	River	At risk	At risk	Moderate	Moderate	No	Ag, UWW			
07_15	IE_EA_07M010220	MATTOCK_020	River	Review	Review	Good	Good	No				
07_15	IE_EA_07M010300	MATTOCK_030	River	At risk	At risk	Unassigned	Unassigned	No	Ag			
07_14	IE_EA_07M030070	MOYNALTY_010	River	Not at risk	At risk	Good	Good	No	Ag	Moynalty		deteriorated WB in sub-catchment - expand PAA Ag significant pressure 2027 EO
07_14	IE_EA_07M030100	MOYNALTY_020	River	At risk	At risk	Moderate	Poor	No	Hymo	Moynalty		existing PAA proposed to transition in 2022 Hymo significant pressure 2027 EO
07_14	IE_EA_07M030300	MOYNALTY_030	River	At risk	At risk	Poor	Poor	No	Ag, Ind	Moynalty		existing PAA proposed to transition in 2022 Ag, Industry significant pressures Ag poor drainage - beyond 2027
07_14	IE_EA_07M030700	MOYNALTY_040	River	At risk	At risk	Poor	Poor	No	Ag, UWW	Moynalty		existing PAA proposed to transition in 2022 Ag, Industry, UWW significant pressures 2027 EO
07_14	IE_EA_07M030800	MOYNALTY_050	River	At risk	At risk	Poor	Moderate	No	Ag, Hymo, UWW	Moynalty		existing PAA proposed to transition in 2022 Ag,Hymo,Ind,UWW significant pressures Ag poor drainage - beyond 2027
07_14	IE_EA_07M030900	MOYNALTY_060	River	At risk	At risk	Poor	Moderate	No	Ag, Hymo, UWW	Moynalty		existing PAA proposed to transition in 2022 Ag,Hymo,UWW significant pressures 2027 EO
07_11	IE_EA_07M040400	MILLTOWNPASS_010	River	At risk	At risk	Moderate	Poor	No	DWW, UWW			
07_14	IE_EA_07M060400	MULLAGH LOUGH STREAM_010	River	At risk	At risk	Moderate	Poor	No	Ag, Hymo, UWW	Moynalty		existing PAA proposed to transition in 2022 Ag,Hymo,UWW significant pressures 2027 EO
07_10	IE_EA_07N010100	NADREEGEEL LOUGH STREAM_010	River	Not at risk	Not at risk	Good	Good	No		Nadreegeel		Expansion of existing PAA
07_10	IE_EA_07N010500	NADREEGEEL LOUGH STREAM_020	River	At risk	At risk	Moderate	Poor	No	Ag, DWW, Hymo	Nadreegeel		Existing PAA - requires further characterisation
07_9	IE_EA_07R010090	RIVERSTOWN_010	River	At risk	At risk	Moderate	Moderate	No	Other, Peat	Deel (Raharney)		At risk to extend Deel (Rathharney) to include. Peat and Waste significant pressures. 2027 EO
07_9	IE_EA_07R010200	RIVERSTOWN_020	River	At risk	At risk	Moderate	Moderate	No	Ag, Peat, UR	Deel (Raharney)		At risk to extend Deel (Rathharney) to include. Ag, Peat and URO significant pressures. 2027 EO
07_16	IE_EA_07R020680	RATHCORE STREAM_010	River	Review	Review	Unassigned	Unassigned	No		Blackwater (Longwood)		Expand PAA; Unassigned WB feeding BL_050
07_1	IE_EA_07R030640	Roughgrange (Main channel)_010	River	Review	Review	Unassigned	Unassigned	No				
07_11	IE_EA_07R040300	ROCHFORTBRIDGE STREAM_010	River	At risk	At risk	Moderate	Moderate	No	Peat			

07_14	IE_EA_07R320900	REASK_010	River	Review	Review	Unassigned	Unassigned	No		Moynalty	Existing PAA - unassigned to undertake further characterisation in 3rd cycle
07_19	IE_EA_07S010150	SKANE_010	River	At risk	At risk	Unassigned	Unassigned	No	DWW	Skane	MCC has done survey work in upper Skane in 2019 and previous years. Identified misconnection from residential estate in Dunshaughlin to headwaters still to be resolved. Improvements that might have been expected several years ago when Castletown Tara WWTP replaced old Dunshaughlin WWTP have not been fully realised due to other catchment pressures. Cattle access issues and some poorly drained soils. Some significance as feeder / spawning stream for Boyne salmon population.
07_19	IE_EA_07S010300	SKANE_020	River	At risk	At risk	Poor	Poor	No	Ag, DWW	Skane	MCC has done survey work in upper Skane in 2019 and previous years. Identified misconnection from residential estate in Dunshaughlin to headwaters still to be resolved. Improvements that might have been expected several years ago when Castletown Tara WWTP replaced old Dunshaughlin WWTP have not been fully realised due to other catchment pressures. Cattle access issues and some poorly drained soils. Some significance as feeder / spawning stream for Boyne salmon population.
07_19	IE_EA_07S010510	SKANE_030	River	At risk	At risk	Poor	Poor	No	DWW, Hymo	Skane	MCC has done survey work in upper Skane in 2019 and previous years. Identified misconnection from residential estate in Dunshaughlin to headwaters still to be resolved. Improvements that might have been expected several years ago when Castletown Tara WWTP replaced old Dunshaughlin WWTP have not been fully realised due to other catchment pressures. Cattle access issues and some poorly drained soils. Some significance as feeder / spawning stream for Boyne salmon population.
07_19	IE_EA_07S010600	SKANE_040	River	At risk	At risk	Poor	Poor	No	Ag	Skane	MCC has done survey work in upper Skane in 2019 and previous years. Identified misconnection from residential estate in Dunshaughlin to headwaters still to be resolved. Improvements that might have been expected several years ago when Castletown Tara WWTP replaced old Dunshaughlin WWTP have not been fully realised due to other catchment pressures. Cattle access issues and some poorly drained soils. Some significance as feeder / spawning stream for Boyne salmon population.
07_12	IE_EA_07S020065	STONYFORD_010	River	Not at risk	At risk	Good	Moderate	No	Ag, Hymo	Stonyford	Proposed by WH for LAWPRO Deteriorated WB LAWPRO propose for LA as MH propose to work in downstream WB

07_12	IE_EA_07S020075	STONYFORD_020	River	Not at risk	At risk	Good	Moderate	No	Ag, Hymo	Stonyford	Proposed by WH for LAWPRO Deteriorated WB LAWPRO propose for LA as MH propose to work in downstream WB
07_12	IE_EA_07S020100	STONYFORD_030	River	Not at risk	At risk	Good	Moderate	No	Ag, Peat	Stonyford	Proposed by WH for LAWPRO LAWPRO propose for LA as MH propose to work in downstream WB Proposed by MH for MH Dropped in status in 2018 EPA biological surveys, previously Q4 sites. Meath CC hasn't targeted this catchment for surveys in recent years as it was one of the better areas, so Meath CC stream surveys and follow up farm inspections could be very beneficial. Not an extensive area for poorly drained soils. Potentially a tributary with positive influence on Boyne. (Should also get 2 phys-chem monitoring sites re-instated onto WFD Operational programme). Border catchment with Westmeath.
07_12	IE_EA_07S020400	STONYFORD_040	River	Not at risk	At risk	Good	Moderate	No	Ag	Stonyford	Proposed by MH for MH Dropped in status in 2018 EPA biological surveys, previously Q4 sites. Meath CC hasn't targeted this catchment for surveys in recent years as it was one of the better areas, so Meath CC stream surveys and follow up farm inspections could be very beneficial. Not an extensive area for poorly drained soils. Potentially a tributary with positive influence on Boyne. (Should also get 2 phys-chem monitoring sites re-instated onto WFD Operational programme). Border catchment with Westmeath.
07_17	IE_EA_07S320550	STAGRENNAN_010	River	Review	Review	Unassigned	Unassigned	No			
07_20	IE_EA_07T010400	TROMMAN STREAM_010	River	Review	Not at risk	Unassigned	Unassigned	No		Tromman Stream	Part of Knightsbrook subcatchment - separate tributary to the Knightsbrook and feeds into Boyne_070. Unassigned but used to be monitored. Only taking on as unassigned.
07_8	IE_EA_07T180970	TOBERULTAN_010	River	Review	At risk	Unassigned	Unassigned	No	Ag, Hymo	Toberultan	Catchment is not assigned a status currently, Meath CC has requested EPA to add to biological monitoring programme as it's a large catchment area without monitoring. Preliminary work by MCC in 2019 indicates problems in catchment and below Good Status. Large area, no farm surveys previously by MCC so investigative and farm surveys definitely warranted.
07_17	IE_EA_07T270880	TULLYESKAR_010	River	Review	Review	Unassigned	Unassigned	No		Ballymackenny GWS	NFGWS would like to highlight that the Ballymackenny GWS groundwater Zone of Contribution is situated within the Tullyesker_010 and therefore would like to propose its inclusion for selection as a PAA.

07_18	IE_EA_07Y010800	YELLOW (Blackwater Kells)_010	River	Review	Review	Unassigned	Unassigned	No		Blackwater (Kells) Lower	to complete sub-catchment
07_18	IE_EA_07Y011100	YELLOW (Blackwater Kells)_020	River	At risk	At risk	Poor	Poor	No	Ag	Blackwater (Kells) Lower	At risk WB
07_11	IE_EA_07Y020070	YELLOW (CASTLEJORDAN)_010	River	At risk	At risk	Moderate	Moderate	No	Ag	Yellow (Castlejordan)	At risk WB 2027 EO Ag significant pressure
07_11	IE_EA_07Y020100	YELLOW (CASTLEJORDAN)_020	River	Not at risk	Not at risk	Good	Good	No			
07_11	IE_EA_07Y020300	YELLOW (CASTLEJORDAN)_030	River	Not at risk	Not at risk	Good	Good	No			
07_7	IE_EA_07_178	Glass	Lake	Review	Review	Unassigned	Unassigned	No			
07_7	IE_EA_07_190	Doo WH	Lake	Review	Review	Unassigned	Unassigned	No			
07_7	IE_EA_07_223	Ben	Lake	Review	Review	Unassigned	Unassigned	No		Lough Lene	3 unassigned lakes to complete sub-catchment; feeder stream in existing Lough Lene-Adeel stream PAA. Characterisation of lakes
07_5	IE_EA_07_242	Acurry	Lake	At risk	At risk	Poor	Poor	No	Ag, DWW, Other	Blackwater (Kells) Upper	Poor status lake, At Risk - included under Blackwater (Kells) recommended PAA
07_7	IE_EA_07_258	Annagh-White	Lake	Not at risk	Not at risk	Good	Good	No		Lough Lene	Lake within existing PAA boundary. Protect function
07_5	IE_EA_07_267	Skeagh Upper	Lake	At risk	At risk	Bad	Poor	No	Ag, DWW	Blackwater (Kells) Upper	Poor status lake, At Risk - included under Blackwater (Kells) recommended PAA
07_5	IE_EA_07_268	Drumkeery	Lake	At risk	At risk	Bad	Poor	No	Ag, DWW	Blackwater (Kells) Upper	Poor status lake, At Risk - included under Blackwater (Kells) recommended PAA
07_7	IE_EA_07_270	Bane Noggin Hill	Lake	Not at risk	At risk	High	Good	Yes	Other	Lough Lene	Proposed by MH lake within existing PAA - L.Lene, Restore Blue Dot - failing Biol + failing fish + Chemical SW Status; L. Bane is on Blue Dot programme as it was High Status in 2010-2015, drinking water source, limited number of pressures, nutrients generally low. Appears that Fish status is issue in regaining High Status. Limited development in area, and recognised as important public drinking water source. Border with Westmeath. 2027 EO
07_10, 26F_3	IE_EA_07_273	Nadreegeal	Lake	At risk	At risk	Poor	Moderate	No	Ag	Nadreegeal	Expansion of existing PAA
07_7	IE_EA_07_274	Lene	Lake	Not at risk	At risk	Good	Moderate	No	Other	Lough Lene	Lake itself was not included in 2nd cycle PAA. To include in 3rd cycle. Protected Area WB not meeting objective. Invasive species significant pressure. 2027 EO Proposed by WH Active community groups; Municipal DW supply; Bathing Water; deteriorated WB

07_10,07_5	IE_EA_07_275	Ramor	Lake	At risk	At risk	Bad	Poor	No	Ag, Other, UWW	Blackwater (Kells) Upper	Lough Ramor Poor Status drinking water source Pressures urban wastewater, Agriculture & Industry. Additional comments: Focus on Blackwater Kells and Lough Ramor.
06_14,07_17	IE_EA_010_0000	Boyne Estuary Plume Zone	Coastal	Review	At risk	Good	Moderate	No	Other, UR		
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			
06_14,07_17	IE_NB_025_0000	Louth Coast (HA 06)	Coastal	Not at risk	Review	Unassigned	Unassigned	No			
07_1,07_15, 07_17	IE_EA_010_0100	Boyne Estuary	Transitional	At risk	At risk	Moderate	Moderate	No	Ag, UWW		
07_11,07_12, 07_13,07_14, 07_18,07_2, 07_3,07_4, 07_7,07_8, 07_9,14_14, 25A_10, 25A_3,25A_7, 26F_6,26F_7, 26F_9	IE_EA_G_001	Athboy	Groundwater	Review	At risk	Good	Good	No	Ag		
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		
06_3,06_7, 07_10,07_13, 07_14,07_5, 07_8,26F_3, 26F_6,36_11, 36_16,36_9	IE_EA_G_006	Bailieborough	Groundwater	Review	Not at risk	Good	Good	No			
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			

06_14, 06_15, 06_3, 06_4, 07_14, 07_15, 07_17, 07_18, 07_8	IE_EA_G_010	Wilkinstown	Groundwater	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			
06_3, 07_14, 07_18, 07_8	IE_EA_G_015	Moynalty	Groundwater	Not at risk	Not at risk	Good	Good	No			
07_1, 07_17, 08_4, 08_5	IE_EA_G_016	Bettystown	Groundwater	At risk	At risk	Poor	Poor	No	Ag, M+Q	Bettystown GW	<p>The GWB has deteriorated in status due to abstraction pressures. These are likely to be represented in other areas of the country in the future.</p> <p>GSI are conducting research (together with EPA hydrometrics and IW) into the abstraction pressures and groundwater resources in this GWB. A PAA status would allow this already existing work to be highlighted via the WFD process.</p> <p>Deteriorated waterbody; GWB has deteriorated in status due to abstraction pressures. Build on existing programmes and community group initiatives.</p>
07_16, 07_20	IE_EA_G_018	Longwood	Groundwater	Not at risk	Not at risk	Good	Good	No			
07_19, 07_20, 09_10, 09_3	IE_EA_G_019	Moynalty	Groundwater	Review	Not at risk	Good	Good	No			
07_1, 07_19, 08_4, 08_5	IE_EA_G_020	Realtage	Groundwater	Review	Not at risk	Good	Good	No			
07_1, 07_15, 07_17, 08_4, 08_5	IE_EA_G_021	Donore	Groundwater	Review	Not at risk	Good	Good	No			
06_14, 07_1, 07_15, 07_17, 08_5	IE_EA_G_025	Drogheda	Groundwater	Review	Not at risk	Good	Good	No			
07_1, 07_19, 08_4	IE_EA_G_028	Hill of Tara	Groundwater	Review	Not at risk	Good	Good	No			
07_17	IE_EA_G_029	Industrial Facility (P0784-01)	Groundwater	At risk	At risk	Poor	Poor	No	Ind		
07_19, 07_20, 08_3, 09_10	IE_EA_G_031	Dunshaughlin	Groundwater	Not at risk	Not at risk	Good	Good	No			
07_16, 07_2, 07_4	IE_EA_G_044	Kilrathmurry Gravels	Groundwater	Review	Not at risk	Good	Good	No			
07_20	IE_EA_G_066	Waste Facility (W0010-02)	Groundwater	At risk	At risk	Poor	Good	No	Other		

07_2, 07_9	IE_EA_G_072	GWDTE-Mount Hevey Bog (SAC002342)	Groundwater	Review	Not at risk	Good	Good	No			
07_10, 07_14, 07_8	IE_EA_G_073	GWDTE-Killyconny Bog (Cloghbally) (SAC000006)	Groundwater	Review	Not at risk	Good	Good	No			
07_11, 14_14, 25A_3	IE_EA_G_074	GWDTE-Raheenmore Bog (SAC000582)	Groundwater	Review	Not at risk	Good	Good	No			
07_12, 07_13	IE_EA_G_075	GWDTE-Newtown Lough Fen (SAC002299)	Groundwater	Not at risk	Not at risk	Good	Good	No			
07_9, 25A_10	IE_EA_G_083	Waste Facility (W0071-02)	Groundwater	At risk	Not at risk	Poor	Good	No			
07_14	IE_EA_G_090	Waste Facility (W0091-01)	Groundwater	Not at risk	Not at risk	Good	Good	No			
07_12, 07_16, 07_20, 07_9	IE_EA_G_094	Longwood Gravels	Groundwater	Not at risk	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			
06_1, 06_15, 06_3, 06_4, 06_7, 07_14	IE_NB_G_018	Ardee	Groundwater	Review	At risk	Good	Good	No	Ag		
03_5, 03_6, 06_5, 06_7, 06_8, 07_10, 07_5, 26C_2, 26C_4, 26C_6, 26F_3, 26F_6, 26F_7, 36_10, 36_11, 36_12, 36_14, 36_16, 36_17, 36_18, 36_19, 36_21, 36_3, 36_4, 36_5, 36_8, 36_9	IE_NW_G_061	Cavan	Groundwater	Review	Not at risk	Good	Good	No			
07_4, 14_1, 14_11, 14_14, 14_16, 14_17, 14_20, 14_3	IE_SE_G_048	Cushina	Groundwater	Not at risk	Not at risk	Good	Good	No			
07_11, 14_14, 25A_3, 25A_4	IE_SE_G_049	Daingean	Groundwater	Not at risk	Review	Good	Good	No			
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			
07_11, 07_4, 14_14, 14_20, 14_3, 25A_4	IE_SE_G_116	Rhode	Groundwater	Not at risk	Not at risk	Good	Good	No			

07_4, 14_1, 14_11, 14_12, 14_14, 14_16, 14_17, 14_18, 14_2, 14_20, 14_3, 15_10, 15_7, 25A_4	IE_SE_G_153	Bagenalstown Upper	Groundwater	Review	Review	Good	Good	No			
07_12, 07_7, 25A_10, 26F_6, 26F_7, 26F_9	IE_SH_G_077	Derravarragh	Groundwater	At risk	At risk	Good	Good	No	Ag		
07_11, 14_14, 14_15, 14_20, 25A_11, 25A_12, 25A_2, 25A_3, 25A_4, 25A_5, 25A_6, 25B_1, 25B_3	IE_SH_G_103	Geashill	Groundwater	Not at risk	Not at risk	Good	Good	No			
07_10, 07_12, 07_13, 07_7, 07_9, 25A_10, 25A_8, 25A_9, 25B_2, 26C_1, 26C_6, 26C_7, 26E_1, 26E_4, 26E_6, 26F_1, 26F_10, 26F_2, 26F_3, 26F_4, 26F_5, 26F_6, 26F_7, 26F_8, 26F_9, 26G_1, 26G_2, 26G_3, 36_18, 36_8, 36_9	IE_SH_G_110	Inny	Groundwater	Review	Not at risk	Good	Good	No			
07_7, 26F_6, 26F_7	IE_SH_G_238	Tynagh Gravels	Groundwater	Review	At risk	Good	Good	No	Ag		
07_11, 07_2, 07_9, 25A_1, 25A_10, 25A_11, 25A_2, 25A_3, 25A_5, 25A_7, 25A_8, 25A_9, 25B_1, 25B_2, 25B_4, 26F_1, 26F_2, 26F_4, 26F_5, 26G_1, 26G_3	IE_SH_G_240	Clara	Groundwater	Not at risk	Not at risk	Good	Good	No			
07_11, 25A_3, 25A_7, 25A_9	IE_SH_G_242	Kilbeggan Gravels	Groundwater	Review	Not at risk	Good	Good	No			

07_7, 26F_9	IE_SH_G_261	Industrial Facility (P0690-01)	Groundwater	At risk	At risk	Poor	Poor	No	Ind		
03_1, 03_5, 06_1, 06_10, 06_11, 06_12, 06_13, 06_14, 06_15, 06_2, 06_3, 06_4, 06_5, 06_6, 06_7, 06_8, 06_9, 07_14, 07_15, 07_17, 07_18, 07_5, 36_12, 36_16	IEGBNI_NB_G_019	Louth	Groundwater	Review	Not at risk	Good	Good	No			

Ag: Agriculture

M+Q: Mines and Quarries

DWW: Domestic Waste Water

Peat: Peat Drainage and Extraction

For: Forestry

UR: Urban Run-off

Hymo: Hydromorphology

UWW: Urban Waste Water

Ind: Industry

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