Suir Catchment Assessment 2010-2015 (HA 16)

Catchment Science & Management Unit

Environmental Protection Agency

December 2018

Version no. 3

epaCatchments
Healthy • Resilient • Productive
Valued water resources supporting vibrant communities

Preface

This document provides a summary of the characterisation outcomes for the water resources of the Suir Catchment, which have been compiled and assessed by the EPA, with the assistance of local authorities and RPS consultants. The information presented includes status and risk categories of all water bodies, details on protected areas, significant issues, significant pressures, load reduction assessments, recommendations on future investigative assessments, areas for actions and environmental objectives. The characterisation assessments are based on information available to the end of 2015. Additional, more detailed characterisation information is available to public bodies on the EPA WFD Application via the EDEN portal, and more widely on the catchments.ie website. The purpose of this document is to provide an overview of the situation in the catchment and help inform further action and analysis of appropriate measures and management strategies.

This document is supported by, and can be read in conjunction with, a series of other documents which provide explanations of the elements it contains:

1. An explanatory document setting out the full characterisation process, including water body, subcatchment and catchment characterisation.
2. The Final River Basin Management Plan, which can be accessed on: www.catchments.ie.
3. A published paper on Source Load Apportionment Modelling, which can be accessed at: http://www.jstor.org/stable/10.3318/bioe.2016.22
4. A published paper on the role of pathways in transferring nutrients to streams and the relevance to water quality management strategies, which can be accessed at: http://www.jstor.org/stable/pdf/10.3318/bioe.2016.19.pdf
5. An article on Investigative Assessments which can be accessed at: https://www.catchments.ie/download/catchments-newsletter-sharing-science-stories-june-2016/

Table of contents

1 Introduction

This catchment includes the area drained by the River Suir and all streams entering tidal water between Drumdowney and Cheekpoint, Co. Waterford, draining a total area of 3,542km². The largest urban centre in the catchment is Waterford City. The other main urban centres in this catchment are Carrick-on-Suir, Clonmel, Caher, Thurles, Tipperary, Fethard and Templemore. The total population of the catchment is approximately 184,860 with a population density of 52 people per km².

The headwaters of the Suir are located on the northern flanks of the Devil’s Bit Mountain in Co. Tipperary. The river flows through a wide limestone plain, past Thurles, where the Suir is joined by the River Drish and the Tipperary Clodiagh. The Suir continues towards Cashel where it is joined by the Multeen River from the west and onwards to Cahir before which the Fidaghta, Ard and Aherlow Rivers flow into the Suir from the Golden Vale on the northern side of the Galtee Mountains.

To the south of Cahir, the Suir is joined by the Thonoge and Tar Rivers which drain the karstified valley between the Galtee and Knockmealdown mountains. The Suir then turns north near the village of Newcastle, meeting the Nier River which drains the western side of the Comeragh Mountains. The Suir then reaches Clonmel, after which it is joined by the River Anner. The Suir becomes tidal just before reaching Carrick-on-Suir, and is joined by several rivers between this point and Waterford city including the Lingaun, Portlaw Clodiagh, Pil, and Kilmacow Blackwater and then makes its way to the confluence with the Nore and Barrow Rivers east of Waterford City. The Suir estuary then turns south, flowing out to sea through Waterford Harbour between Dunmore East and Hook Head. Flood relief works were completed on the Suir at Carrick-on-Suir during 2003 and Clonmel during 2014.

The Suir catchment comprises 29 subcatchments (Table 1, Figure 1) with 168 river water bodies, seven lakes, four transitional water bodies, no coastal water bodies and 18 groundwater bodies.

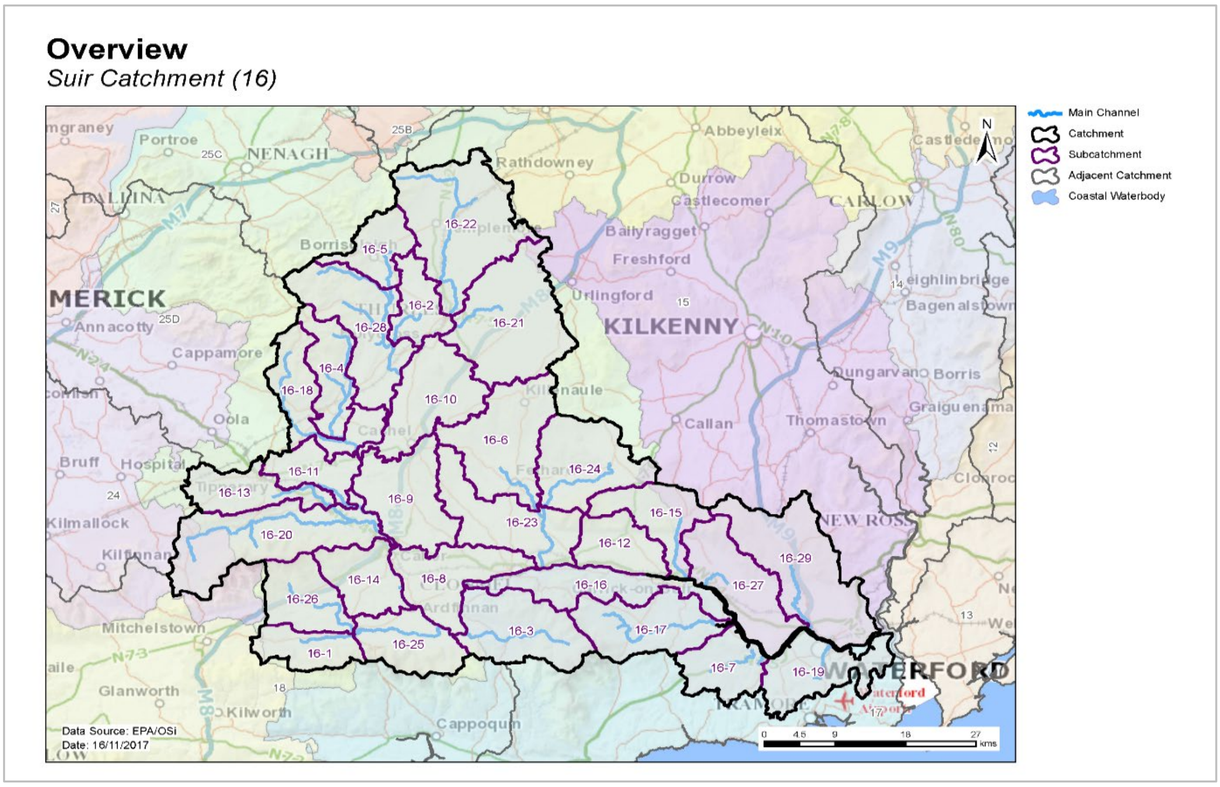


Figure 1. Subcatchments in the Suir catchment

Table 1. List of subcatchments in the Suir catchment

Subcatchment ID	Subcatchment Name
16_1	Duag_SC_010
16_2	Suir_SC_020
16_3	Suir_SC_130
16_4	Multeen[East]_SC_010
16_5	Fishmoyne_SC_010
16_6	Clashawley_SC_010
16_7	Dawn[River]_SC_010
16_8	Suir_SC_120
16_9	Suir_SC_080
16_10	Suir_SC_050
16_11	Suir_SC_070
16_12	Suir_SC_160
16_13	Ara_SC_010
16_14	Suir_SC_100
16_15	Lingaun_SC_010
16_16	Suir_SC_140
16_17	Clodiagh[Portlaw]_SC_010
16_18	Suir_SC_060
16_19	Williamstown_SC_010
16_20	Suir_SC_090
16_21	Suir_SC_040
16_22	Suir_SC_010
16_23	Suir_SC_150
16_24	Anner_SC_010
16_25	Suir_SC_110
16_26	Tar_SC_010
16_27	Pil_SC_010
16_28	Suir_SC_030
16_29	Blackwater[Kilmacow]_SC_010

2 Water body status and risk of not meeting environmental objectives

2.1 Surface water ecological status

2.1.1 Rivers and lakes

- There were 76 (43%) river and lake water bodies at Good or High status, and 57 (33%) at less than Good status in 2015 (Table 2, Figure 2). Forty-two (24%) river and lake water bodies are unassigned.
- Nine river water bodies and sites have a high ecological status objective. In 2015, five (56%) of these water bodies were at High status, and four were at Good (Figure 3, Appendix 1).
- The numbers of water bodies at each status class in 2007-09 and 2010-15 are shown in Figure 4 (rivers) and 5 (lakes).
- Since 2007-09 when WFD monitoring began, 21 water bodies have an improved status whereas 17 have deteriorated (Figure 7).
- The variation in nutrient concentrations and loads in the Suir main channel is illustrated in Appendix 2.

2.1.2 Transitional and Coastal (TraC)

- There are four TraC water bodies, all of which are transitional water bodies. One of the water bodies was at Good status in 2015 (Barrow Suir Nore Estuary), two were at Moderate status (Lower Suir Estuary (Little Island – Cheekpoint) and Upper Suir Estuary), and one was at Poor status (Middle Suir Estuary) (Figure 2, Table 2). There are no TraC water bodies that have a high ecological status objective.
- The numbers of water bodies in each status class in 2007-09 and 2010-15 is shown in Figure 6. The Barrow/Suir/Nore Estuary improved from Moderate to Good status in 2010-15 and Upper Suir Estuary has remained at Moderate status since 2007-09. Middle Suir Estuary and Lower Suir Estuary (Little Island - Cheekpoint) have both deteriorated, with Middle Suir Estuary deteriorating from Moderate to Poor status in 2010-15, and Lower Suir Estuary (Little Island – Cheekpoint) deteriorating from Good to Moderate status in 2010-15.
- Note the transitional water body Lower Suir Estuary (Little Island - Cheekpoint) is shared with catchments 14 and 15.

Table 2. Summary of surface water body status and risk categories

	Number of water bodies	2010-15 Status						Risk Categories		
		High	Good	Mod	Poor	Bad	Unassigned	*Not at Risk*	*Review*	*At Risk*
Rivers	168	5	71	31	22	0	39	73	33	62
Lakes	7	0	0	2	2	0	3	3	1	3
TraC	4	0	1	2	1	0	0	1	0	3

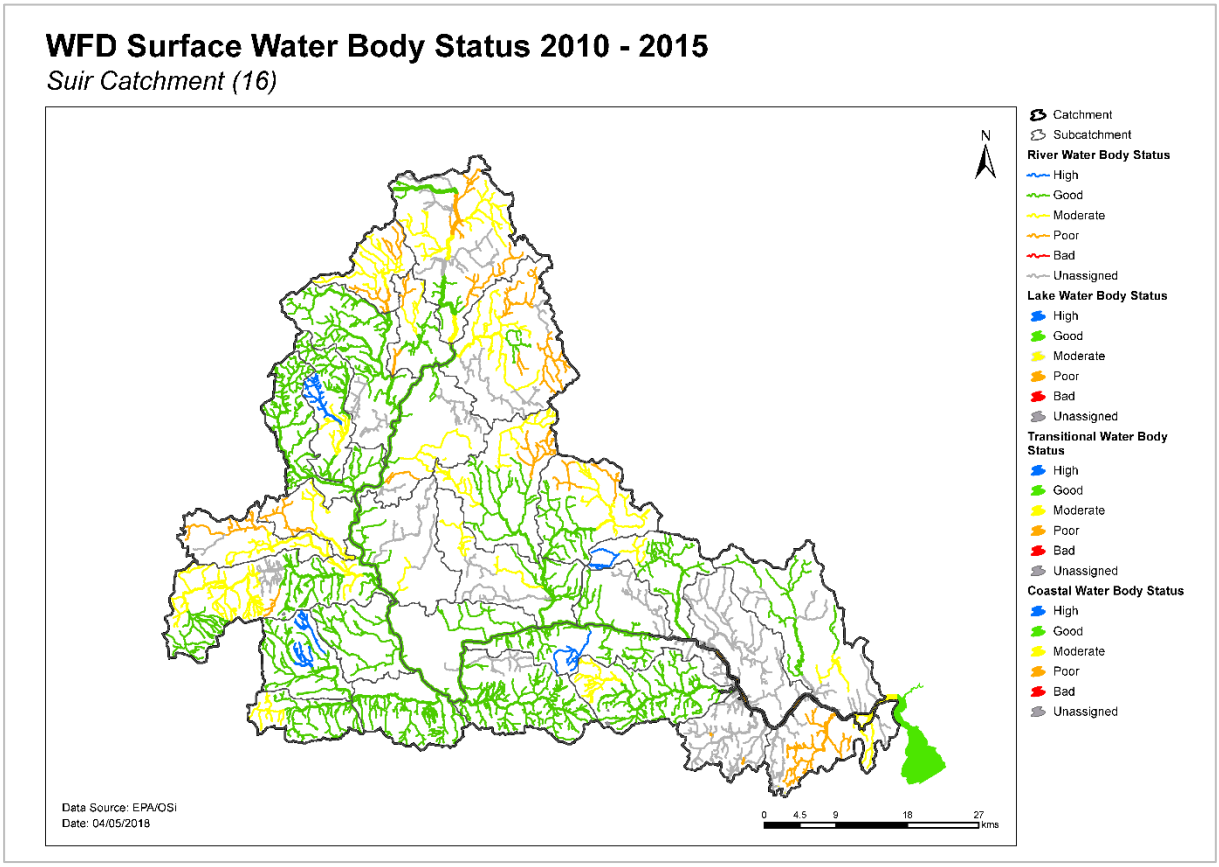


Figure 2. Surface water ecological status

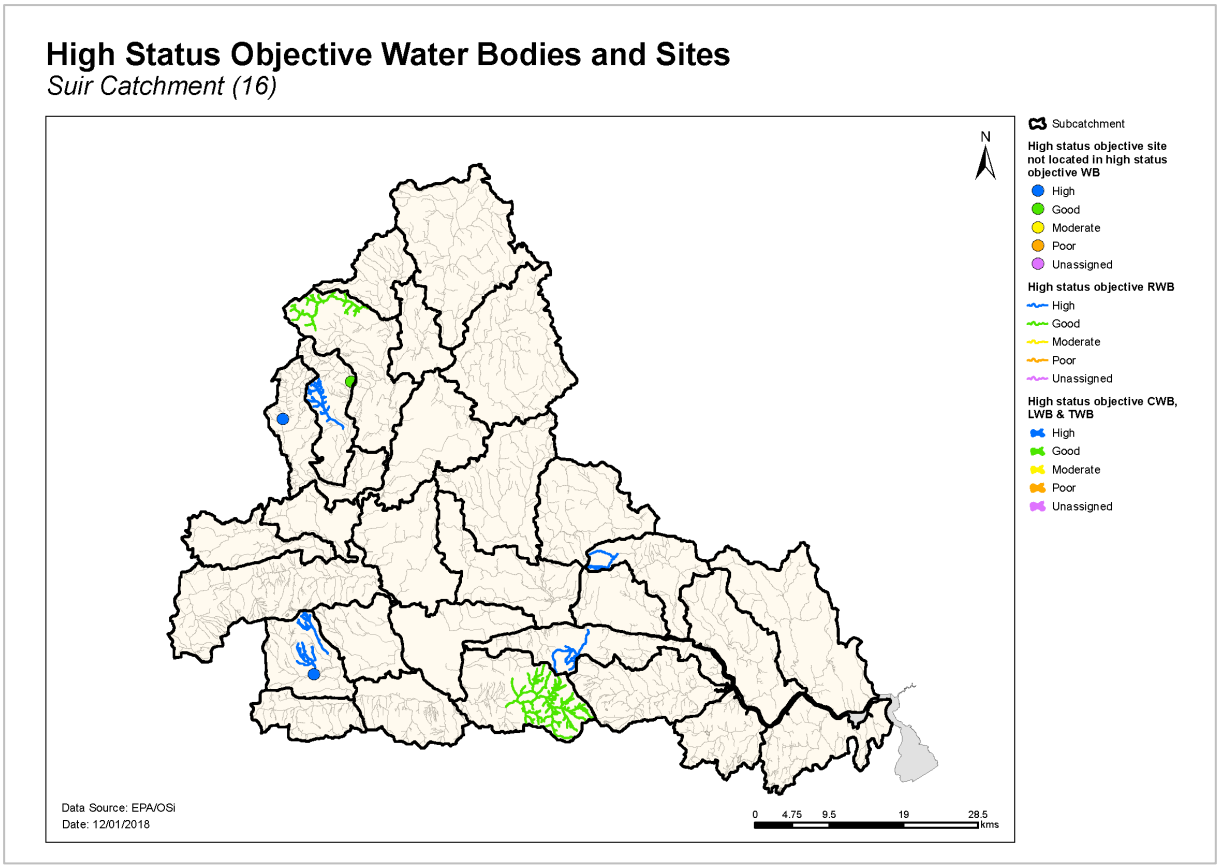


Figure 3. High ecological status objective water bodies and sites

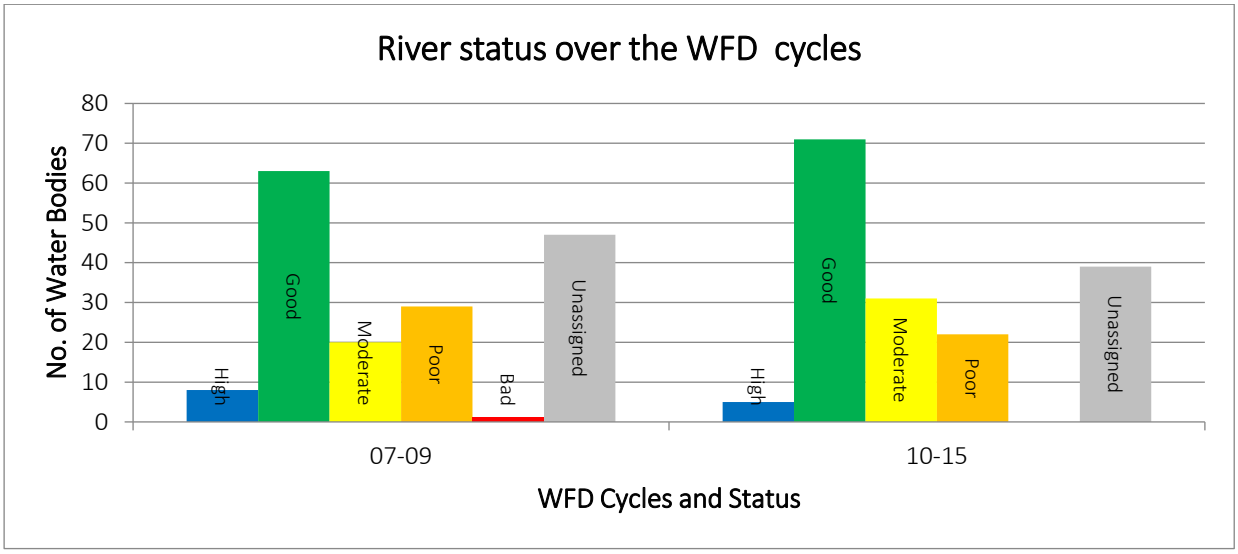


Figure 4. Number of rivers at each status class in 2007-09 and 2010-15

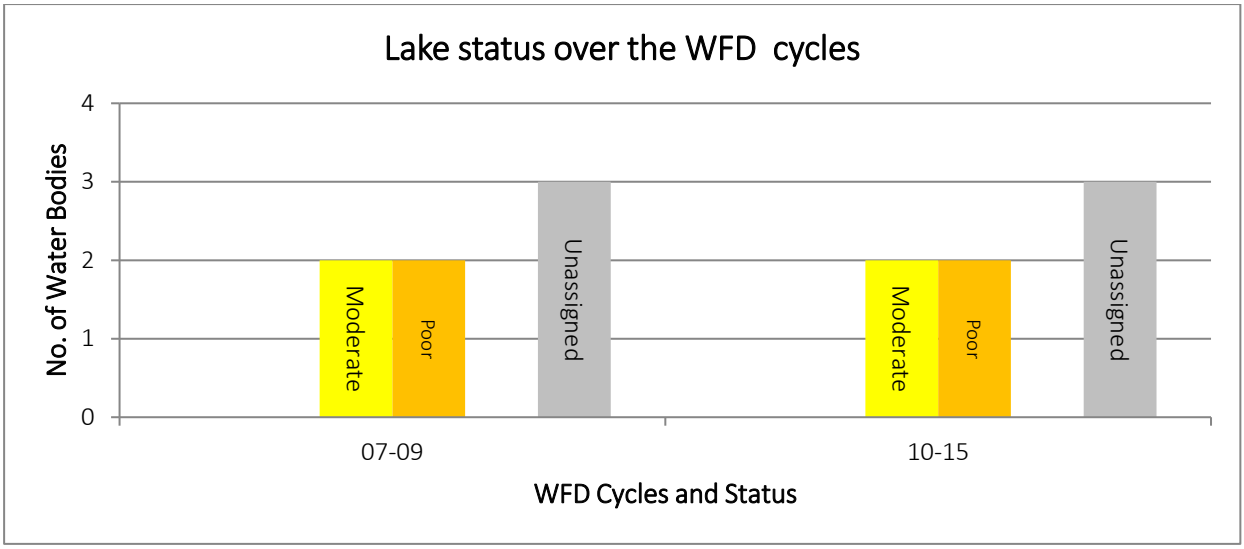


Figure 5. Number of lakes at each status class in 2007-09 and 2010-15

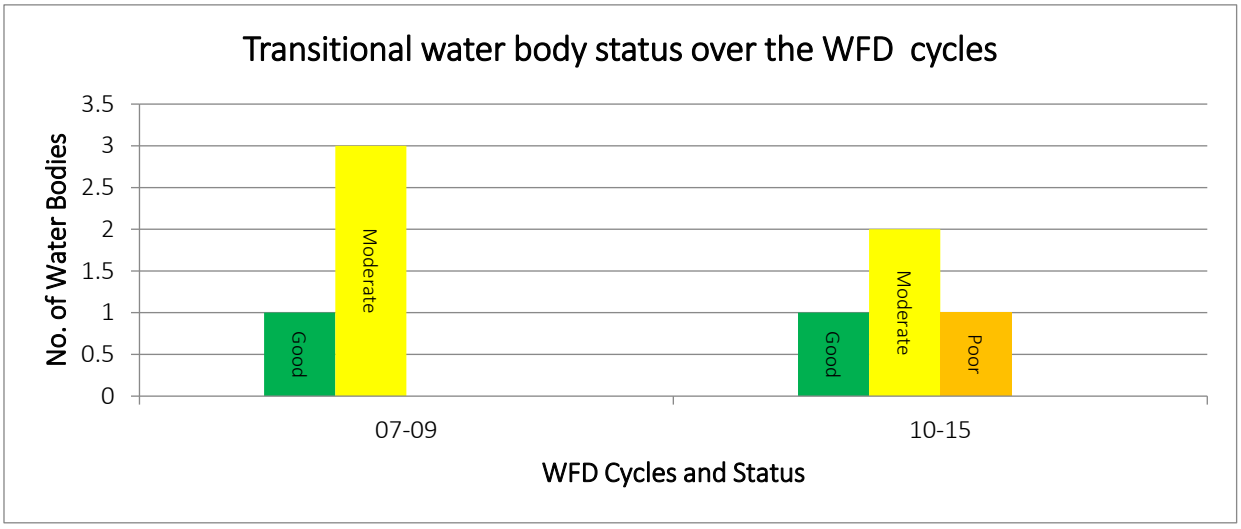


Figure 6. Number of TraCs at each status class in 2007-09 and 2010-15

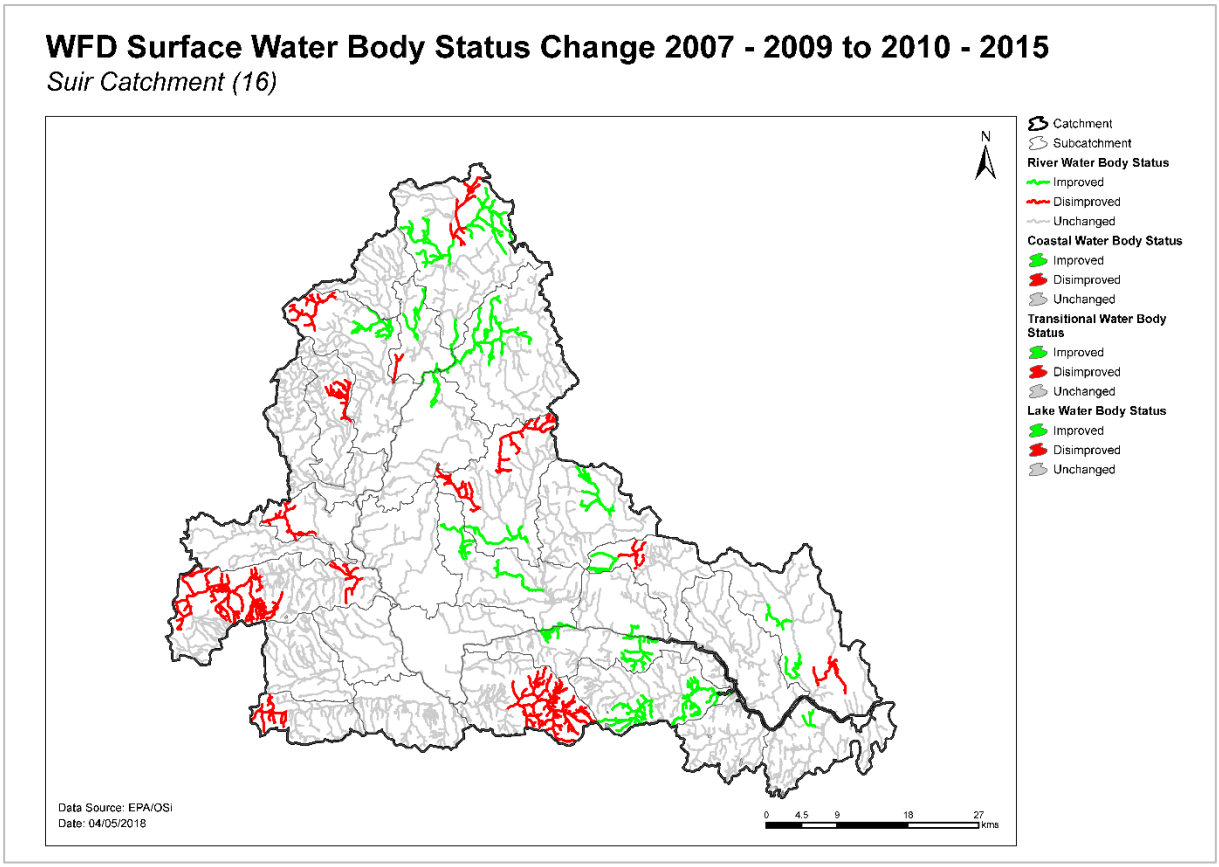


Figure 7. Surface water body status change from 2007-09 to 2010-15

2.2 Groundwater status

- There were 15 groundwater bodies at Good status and three at Poor status in 2015 (Table 3, Figure 9).

- Fourteen of the water bodies remained at Good status and two remained at Poor status (Figure 8). Water body Industrial Facility (P0385-01) (IE_SE_G_179) improved from Poor to Good status, whereas Industrial Facility (P0225-01) (IE_SE_G_0043) was classified at Poor status due to improved information being available and the development of technical assessment approaches, rather than there being deterioration in water quality in this water body between 2007-12 and 2010-15.

Table 3. Summary of groundwater body status and risk categories

	Number of water bodies	2010-15		Risk Categories		
		Good	Poor	*Not at Risk*	*Review*	*At Risk*
Groundwater	18	15	3	5	8	5

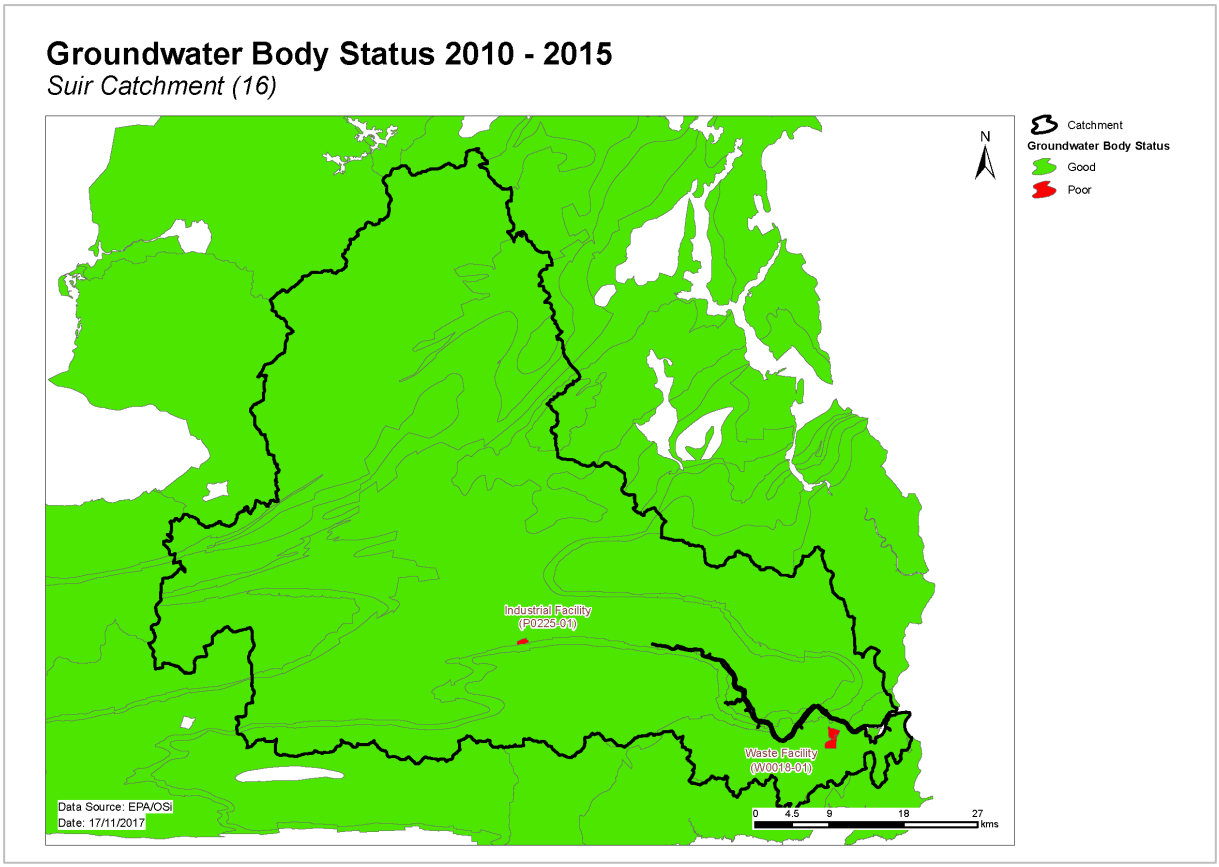


Figure 8. Groundwater status

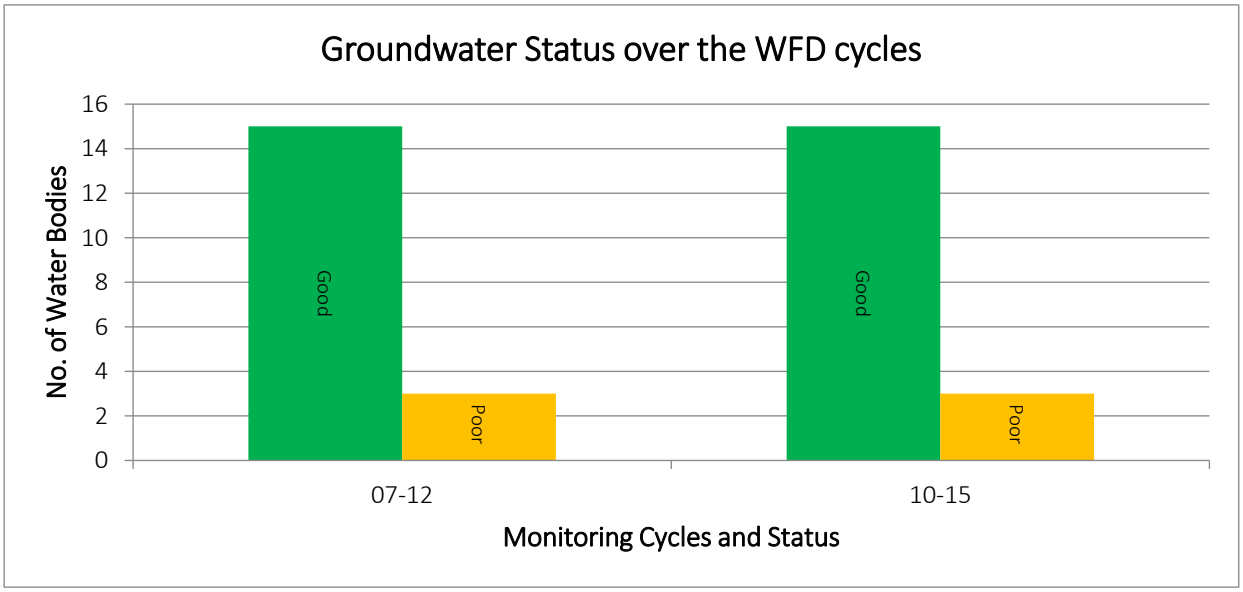


Figure 9. Number of groundwater bodies at each status class in 2007-12 and 2012-15

2.3 Risk of not meeting surface water environmental objectives

2.3.1 Rivers and lakes

- There are 76 surface *Not at Risk* water bodies (Figure 10, Table 2) and these require no additional investigative assessment or measures to be applied, other than those measures that are already in place.
- There are 34 surface water bodies in *Review*. This includes 29 water bodies where more information is required, three water bodies where measures have recently been implemented and improvements have not yet been realised.
- Sixty-five surface water bodies in the catchment are *At Risk* of not meeting their water quality objectives. Measures will be needed in these water bodies to improve the water quality outcomes. Summary information for the *At Risk* water bodies is given in Appendix 3.

2.3.2 Transitional and Coastal (TraC)

- There is one *Not at Risk* TraC water body (Barrow Suir Nore Estuary) which therefore requires no additional investigative assessment or measures to be applied, other than those measures that are already in place.
- There are no TraC water bodies *At Review.*
- There are three TraC water bodies in the catchment that are *At Risk* of not meeting their water quality objectives. Lower Suir Estuary, Middle Suir Estuary and Upper Suir Estuary. Measures will be needed in these water bodies to improve the water quality outcomes.

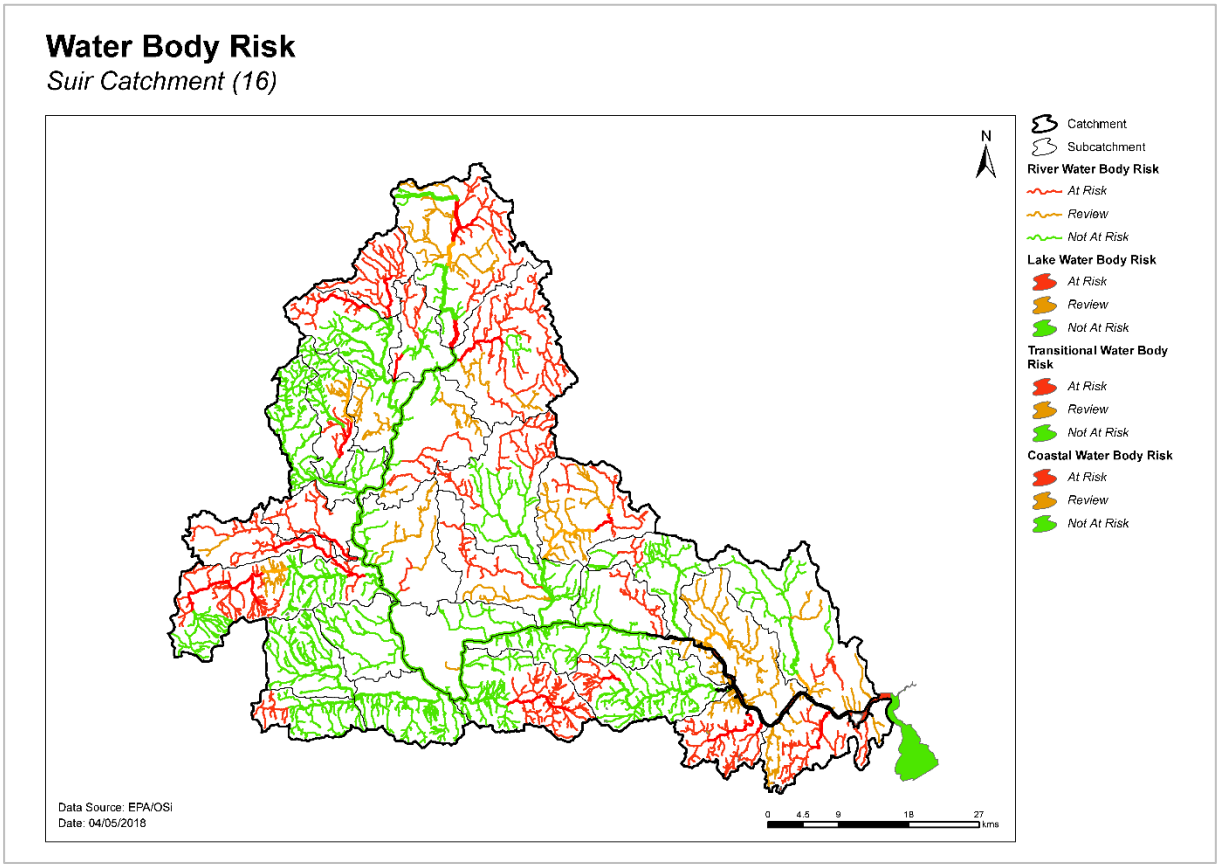


Figure 10. Surface water body risk

2.4 Risk of not meeting groundwater environmental objectives

- Five groundwater bodies are *Not at Risk* (Figure 11, Table 3) and require no additional investigative assessment or measures to be applied, other than those measures that are already in place.
- Eight groundwater bodies are in *Review*. Six of the groundwater bodies are hydrologically linked to surface waters that are not meeting water quality objectives where it is considered likely that groundwater is a contributing source of phosphorus (Figure 11, Table 4). In addition, the Cahir, Clonmel and Waterford groundwater bodies have elevated nitrate concentrations. Tipperary and Thurles also have elevated nitrate concentrations.
- There are five *At Risk* groundwater bodies. Bansha and Carrick-on-Suir are hydrologically linked to surface waters that are *At Risk* of not meeting water quality objectives, and groundwater contribution of phosphate may be impacting (Table 5). Industrial Facility (P0225-01) (IESE_G_043) and Waste Facility (W0018-01) (IE_SE_G_175) are *At Risk* due to impacts of ammonia from the associated industrial sites, and Industrial Facility (P0157-02) (IE_SE_G_176) is impacted by aluminium from an industrial site. Measures will be needed in these groundwater bodies to improve water quality outcomes.

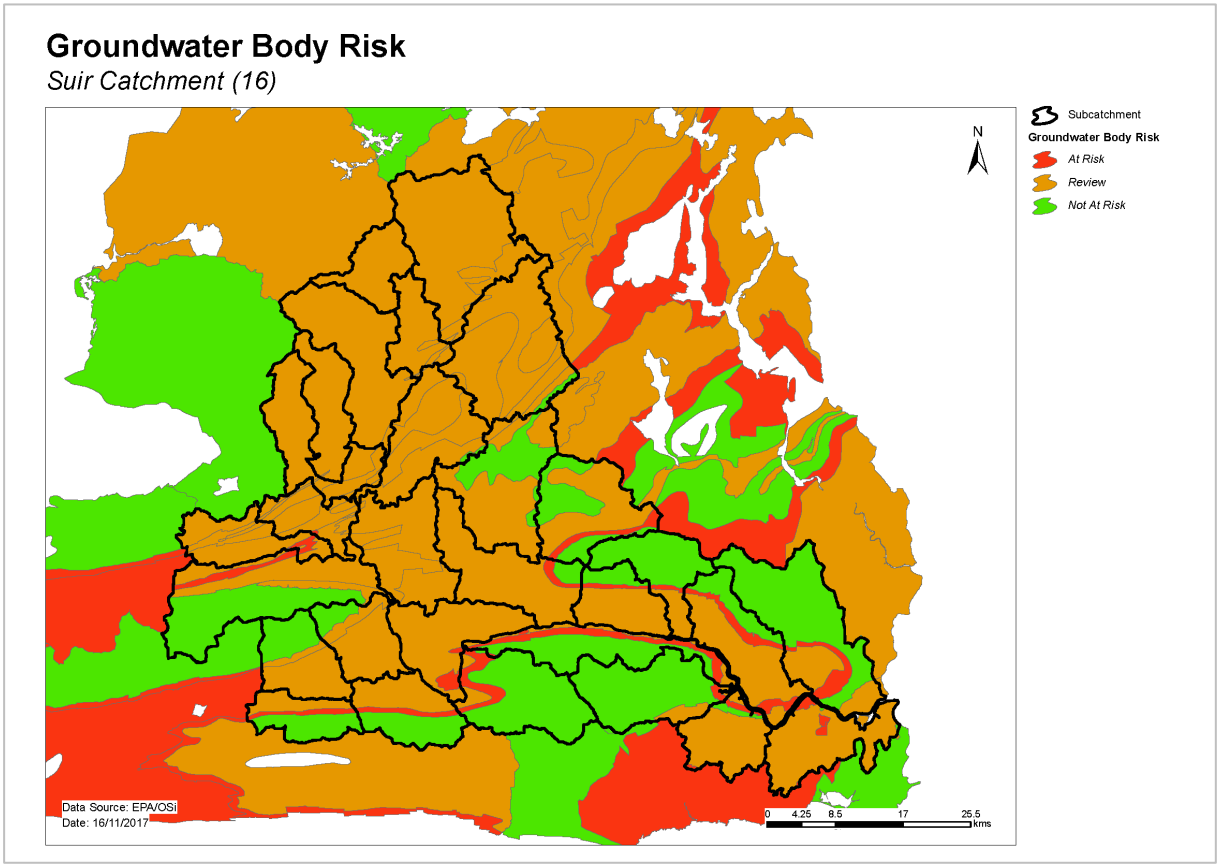


Figure 11. Groundwater body risk

Table 4. Summary of *At Risk* surface water bodies where phosphate from groundwater may contribute to an impact.

Groundwater body name	Receiving water body code	Receiving water body name
Bansha	IE_SE_16A010200	AHERLOW_020
Bansha	IE_SE_16A010300	AHERLOW_030
Bansha	IE_SE_16A010500	AHERLOW_040
Carrick-on-Suir	IE_SE_16A020600	ANNER_030
Carrick-on-Suir	IE_SE_16D030100	DUAG_010
Carrick-on-Suir	IE_SE_16G040200	GLENBROOK_010
Carrick-on-Suir	IE_SE_16S070800	SMARTSCASTLE STREAM_020

2.5 Protected areas

2.5.1 Drinking water protected areas

- There are 114 abstractions in the Suir Catchment comprising 16 group water schemes, 36 public supply schemes and 38 other schemes.
- Ninety-seven of the abstractions are from twelve groundwater bodies; four are from two lakes (Crottys lake and Ballyshunnock lake), and 13 are from eleven river water bodies. The list of the public supplies and the associated water bodies is provided in Appendix 4.
- All drinking water sources were compliant with the standards for nitrate and pesticides in 2015.

2.5.2 Bathing waters

- There are no designated bathing waters in the catchment.

2.5.3 Shellfish areas

- There is one designated shellfish area in the catchment – Waterford Harbour (Cheekpoint/Arthurstown/Creadan). It is compliant with the relevant standards and there are no water quality issues.
- Details on the shellfish area and its associated water body are summarised in Table 5.

Table 5. Designated shellfish area in the catchment

Shellfish area		Water body intersection		Objective met?	
Name	Code	Name	Code	Yes	No
Waterford Harbour (Cheekpoint/Arthurstown/Creadan)	IEPA2_0056	Lower Suir Estuary (Little Island - Cheekpoint)	IE_SE_100_0500	✓	
		Barrow Suir Nore Estuary	IE_SE_100_0100	✓	

2.5.4 Nutrient sensitive areas

- There are four nutrient sensitive areas (Suir (River), Suir (River), Suir Estuary (Upper) and Middle Suir Estuary associated with three urban waste water treatment plants (Thurles, Clonmel and Waterford).
- Two of the three urban waste water treatment plants (Thurles and Clonmel) have tertiary treatment and, therefore, are compliant with the environmental objectives for NSAs.

- Waterford urban waste water treatment plant is not compliant with the environmental objective for NSAs. No upgrade works to include tertiary treatment are planned.

- The list of NSAs, associated agglomerations and intersecting water bodies are provided in Table 6.

Table 6. Nutrient sensitive areas in the catchment

Nutrient Sensitive Area		Agglomeration		Water body		Objective met?		Comment
Name	Code	Name	Code	Name	Code	Yes	No	
Suir (River)	IERI_SE_2001_0019	Thurles	D0026	Suir_080	IE_SE_16S021100	✓		
				Suir_090	IE_SE_16S021300			
Suir (River)	IERI_SE_2001_0020	Clonmel	D0035	Suir_190	IE_SE_16S022600	✓		
				Suir_200	IE_SE_16S022700			
				Suir_210	IE_SE_16S022750			
				Suir_220	IE_SE_16S022850			
Suir Estuary (Upper)	IETW_SE_2001_0031a			Upper Suir Estuary	IE_SE_100_0600			
Middle Suir Estuary	IETW_SE_2001_0031b	Waterford	D0022	Middle Suir Estuary	IE_SE_100_0550		✓	No upgrade planned to include tertiary treatment.

2.5.5 Natura 2000 sites

- There are eight Special Areas of Conservation (SACs) in the catchment (Appendix 5), not all of which have water quality and/or quantity conservation objectives for their qualifying interests.

- Seven rivers water bodies have been prioritised for action as the water conservation objectives for their habitats and/or species are not being supported by ecological status (Appendix 5).

- There is one Special Protected Area (SPA) in the catchment:
    - Slievefelim to Silvermines Mountains SPA (004165)

  As there are no specific water quality and quantity supporting conditions identified in the site-specific conservation objectives for these SPAs, the intersecting water bodies are not assigned priority action for WFD protected area purposes in the second cycle.

2.6 Heavily modified water bodies

- There is one designated heavily modified water body (HMWB) in the Suir catchment – the Lower Suir Estuary (Little Island Cheekpoint) due to port facilities. It was classified as having Moderate Ecological Potential in 2010-2015.

- There are no designated artificial water bodies (AWB) in the catchment.

3 Significant issues in *At Risk* water bodies

- Excess phosphate leading to eutrophication is the dominant issue in rivers and lakes in the Suir catchment. While excess ammonia is also of concern, it is only for a limited number of water bodies.
- Alteration of hydromorphological (or physical) conditions is one of the most significant issues in rivers in the Suir Catchment. This includes inputs of excess fine sediment and alteration of the morphology of the river channel, which in turn alter habitat conditions. This can occur as a result of, for example, implementing river and field drainage schemes, forestry activities, animal access, and discharge from quarries.
- The Upper and Middle Suir Estuaries are being impacted by excessive nutrients, phytoplankton, deteriorated dissolved oxygen conditions and BOD. The Lower Suir Estuary (Little Island - Cheekpoint) is *At Risk* and remains at Moderate status which is driven by benthos. Elevated nutrients are the significant issue.
- Of the 18 groundwater bodies, five are *At Risk*. This is due to several reasons, which include the potential of phosphates from groundwater contribution to surface waters that are *At Risk* of not meeting water quality objectives and ammonia and aluminium from industrial sites in the vicinity of the GWB's.

4 Significant pressures

4.1 Water bodies

- Where water bodies have been classed as *At Risk*, by water quality or survey data, significant pressures have been identified.
- Figure 12 shows a breakdown of the number of *At Risk* water bodies in each significant pressure category.

4.1.1 Rivers, lakes, transitional and coastal (TraC)

- There are no coastal water bodies in the Suir catchment. Significant pressures have been identified through the initial characterisation process, in 68 water bodies, 24 of which have multiple pressures. The significant pressures will be refined as further characterisation is carried out.
- The significant pressure affecting the greatest number of river and lake water bodies is agriculture; followed by forestry, hydromorphological pressures, peat drainage, other, diffuse urban, urban waste water, industry, domestic waste water, and mines and quarries (Figure 12).
- The significant pressure affecting the three *At Risk* transitional water bodies is agriculture.

4.1.2 Groundwater

- The significant pressure affecting Bansha and Carrick-on-Suir groundwater bodies, resulting in phosphate issues, is agriculture. Forestry is also a significant pressure in the Basha groundwater body. The key parameter of concern for IE_SE_G_043 (Industrial Facility (P0225-01)) and IE_SE_G_175 (Waste Facility (W0018-01)) is ammonia, with the significant pressures being industry and waste facilities respectively. In the IE_SE_G_176 (Industrial Facility (P0157-02)) water body, the parameter of concern is aluminium. (Figure 12).

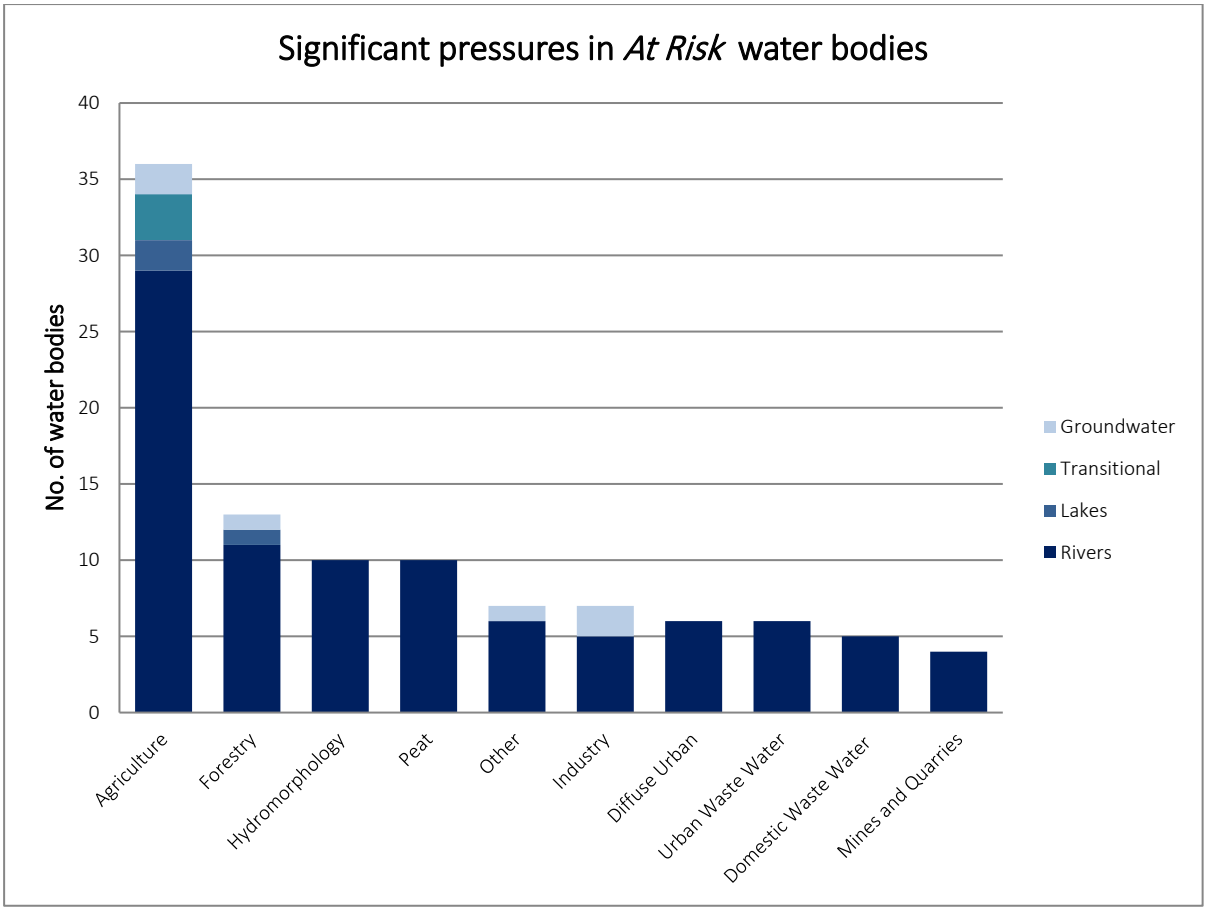


Figure 12. Significant pressures impacting on *At Risk* water bodies

4.2 Pressure type

4.2.1 Agriculture

- Agriculture is a significant pressure in 29 river water bodies, two lake water bodies and three transitional water bodies; the water bodies affected by farming are shown in Figure 13. The issues related to farming in this catchment are 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. Sediment can also be a problem from land drainage works, bank erosion from animal access or stream crossings. The pollution impact potential map showing areas of relative risk for phosphorus loss from agriculture to surface water is given in Appendix 6.

4.2.2 Forestry

- Forestry has been identified as a significant pressure in one lake and eleven river water bodies (Figure 14). The issues are a range of forestry activities taking place that include clearfelling and drainage, which have resulted in heavy siltation and excess nutrients in surface water bodies.

4.2.3 Hydromorphology

- Seven river water bodies within the Suir are subject to extensive modification due to drainage schemes. One river water body (Fishmoyne_030) is impacted by an embankment scheme within the Suir catchment, while two river water bodies are impacted by land drainage within the Fishmoyne sub-catchment. One river water body (Clodiagh_010) is impacted by an impassable weir (Figure 15 and Table 6a).

Table 6a – Hydromorphological Pressures in the Suir Catchment

Pressure	Sub-Catchment	Water body Code
Modification due to Drainage Schemes (Channelisation)	Suir_SC_020	Farneybridge_010
	Suir_ SC_020	Farneybridge_020
	Suir_ SC_020	Farneybridge_040
	Suir_ SC_130	Nier_010
	Suir_ SC_010	Rossestown_020
	Suir_ SC_150	Moyle_010
	Suir_ SC_030	Clodiagh_010
Bank Modification	Fishmoyne_ SC_010	Fishmoyne_030
Land Drainage	Fishmoyne_ SC_010	Fishmoyne_010
	Fishmoyne_ SC_010	Fishmoyne_020
In River Structures	Suir_ SC_030	Clodiagh_010

- See Appendix 3 for information on these water bodies.

4.2.4 Extractive industry

- *Peat*

  Peat drainage and extraction has been identified as a significant pressure in ten river water bodies. Elevated nutrient concentrations and increased sedimentation are the significant issues (Figure 16).

- *Mine*

  A mine has been identified as a significant pressure impacting four river water bodies – Drish_040, Rossestown_010, Rossestown_020 and Rossestown_030 –causing elevated ammonia and increased sedimentation in the river channels (Figure 16).

4.2.5 Other significant pressures

- *Unknown Anthropogenic*

  Six *At Risk* river water bodies have unknown anthropogenic pressures (Figure 17).

4.2.6 Industry

Industry has been identified as a significant pressure in five river water bodies – Ara_020, Ara_030, Clover_010, Dawn_010 and Dawn_020. These point source discharges, causing nutrient and organic issues, arise from industrial discharges. (Figure 18).

4.2.7 Diffuse urban

- Diffuse urban pressures, caused by misconnections, leaking sewers and runoff from paved and unpaved areas, have been identified as a significant pressure in six river water bodies (Figure 19). Elevated concentrations of phosphates and ammonia are the significant issues.

4.2.8 Urban waste water treatment plants

- Urban Waste Water Treatment Plants (WWTPs) and agglomeration networks have been highlighted as significant pressures in six *At Risk* water bodies; details are given in Table 7 and Figure 20. Mullinahone WWTP, which impacts Mullinahone Stream_010, is scheduled to be upgraded by 2019.

4.2.9 Domestic waste water

- Domestic waste water has been identified as a significant pressure in five river water bodies – Glenbrook_010, Fidaghta_010, Fidaghta_020, Lingaun_020, and Ballintemple Stream_010. This is due to a concentration of domestic waste water treatment systems in close proximity to the water bodies, some of which are in karstic areas. The significant issue is excess nutrients entering surface

waters. Furthermore, some of these locations are located on areas of high susceptibility to phosphate transport via near surface pathways (Figure 21).

Table 7. Waste Water Treatment Plants and agglomerations identified as Significant Pressures in *At Risk* water bodies and expected completion dates for associated upgrade works, where applicable.

Facility name	Facility Type	Water Body	2010-15 Ecological Status	Expected Completion Date
Grangemockler A0416	< 500 p.e.	Linguan_020	Moderate	*NA* [1]
Galbally A0208	< 500 p.e.	Aherlow_020	Moderate	*NA* [1]
Twomileborris D0474	500 to 1,000 p.e.	Drish_050	Moderate	*NA* [1]
Drangan A0412	< 500 p.e.	Anner_010	Poor	*NA* [1]
Mullinahone D0456	500 to 1,000 p.e.	Mullinahone Stream_010	Poor	2019
Waterford City D0022	< 10,000 p.e.	*St. John's_020* [2]	Poor	*NA* [1]

[1] *Currently not specified in improvement plans.*
[2] *The agglomeration network, rather than the WWTP, has been identified as a significant pressure impacting St. Johns_020*

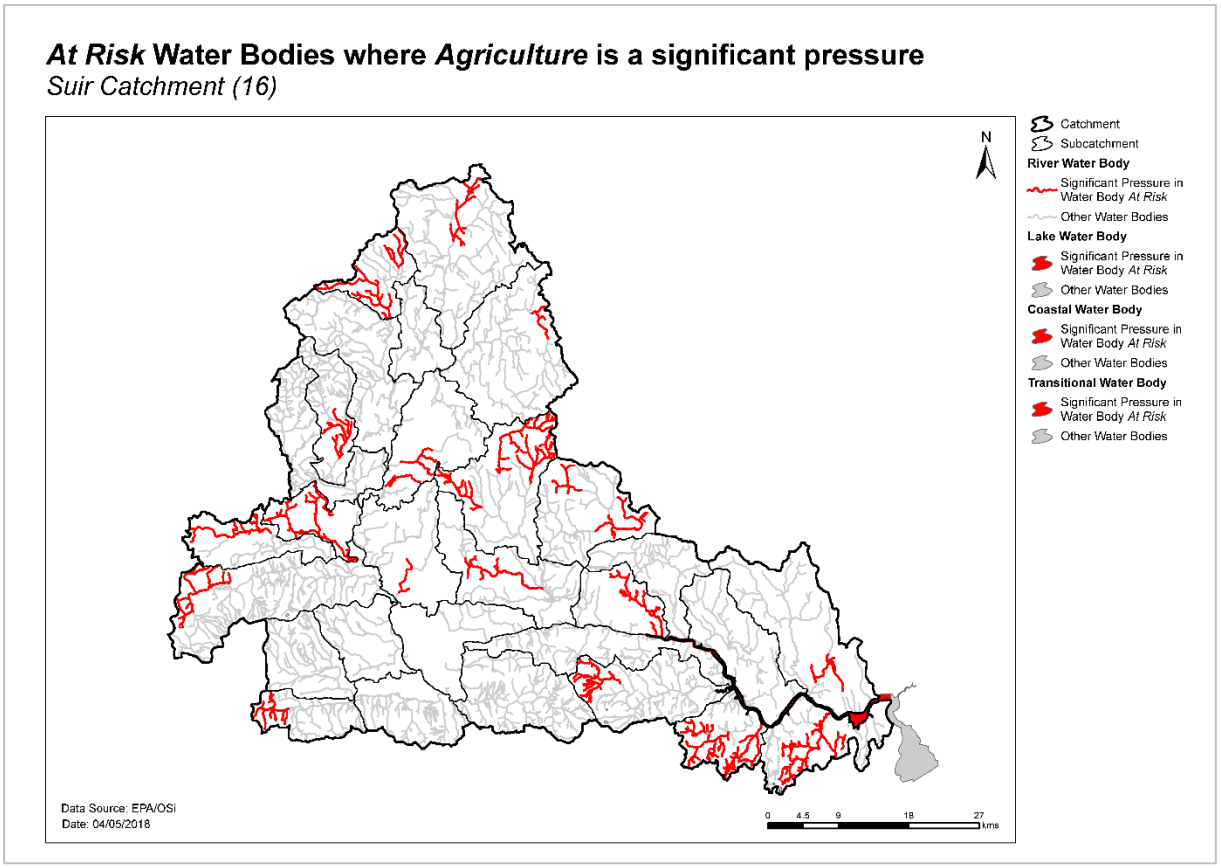


Figure 13. Water bodies that are *At Risk* and are impacted by agricultural activities

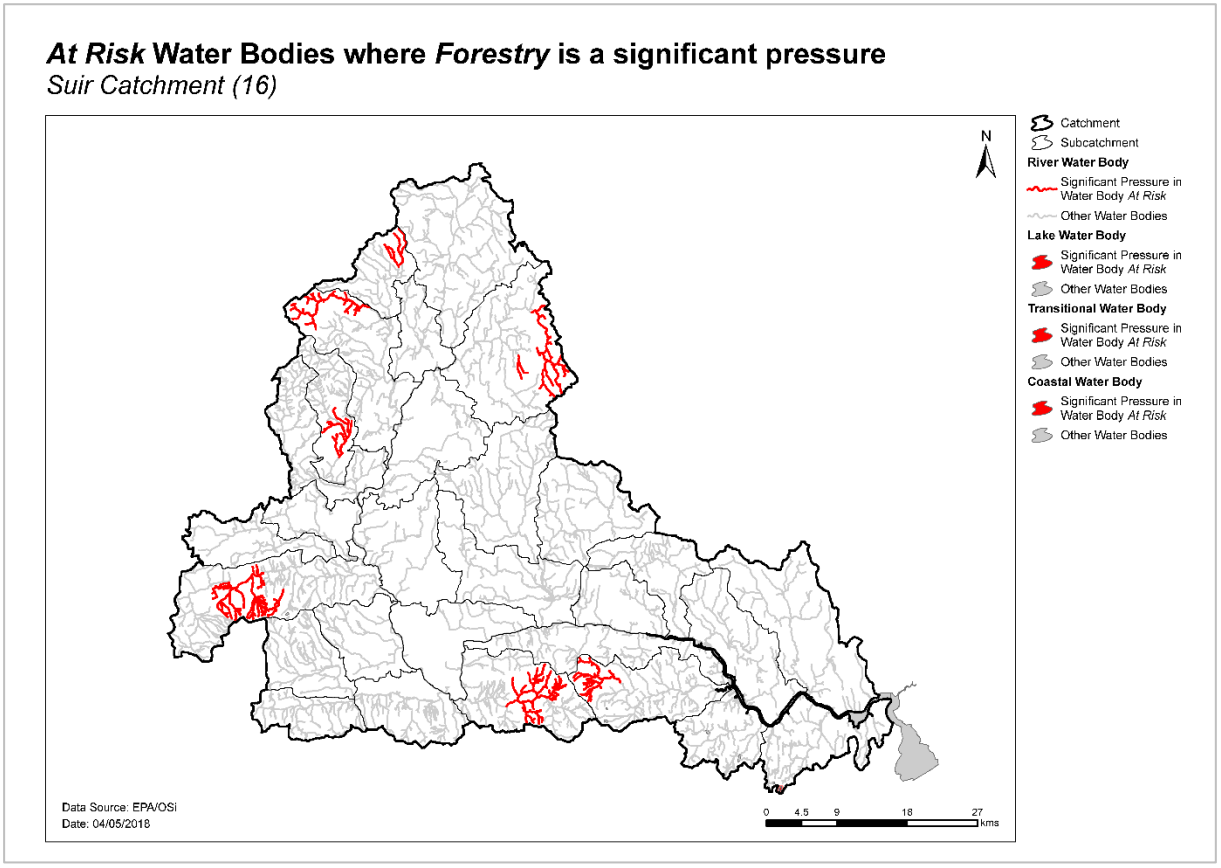


Figure 14. Water bodies that are *At Risk* and are impacted by forestry activities

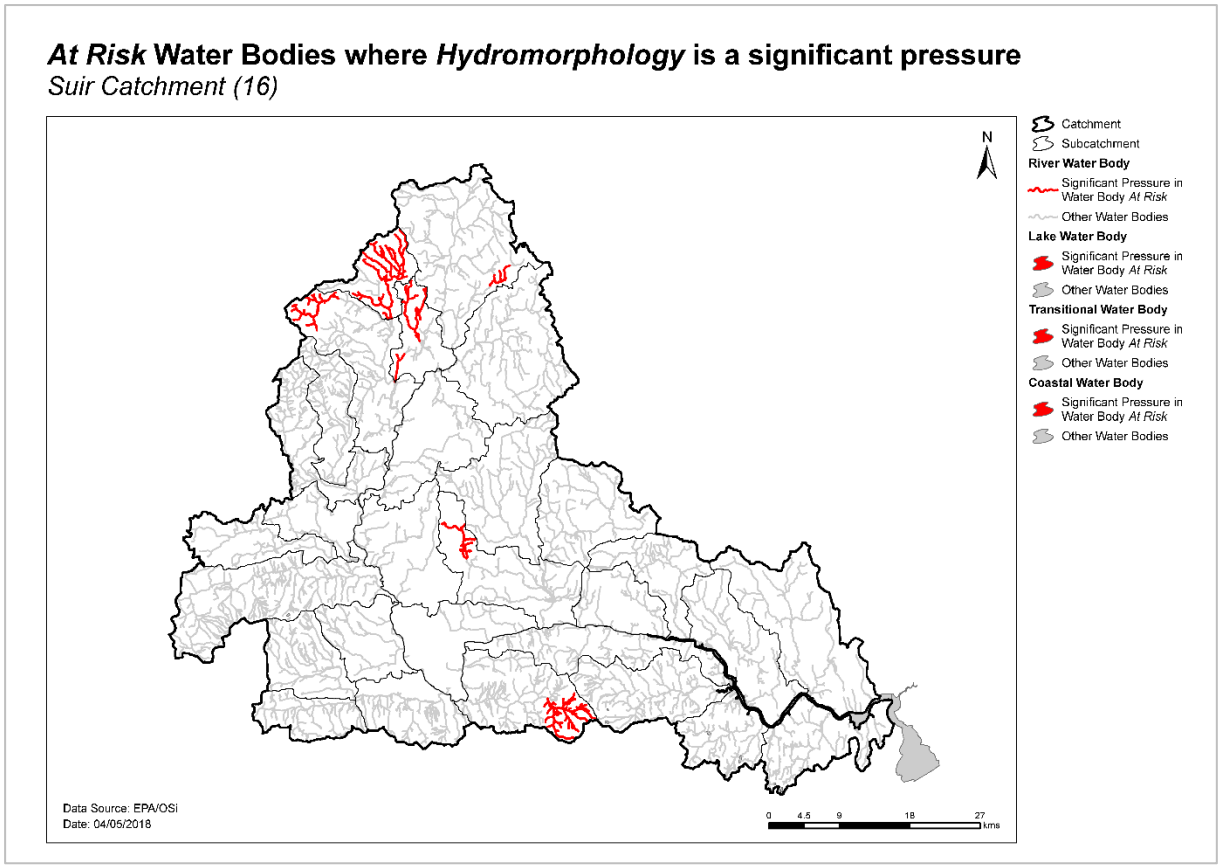


Figure 15. Water bodies that are *At Risk* and are impacted by hydromorphological pressures

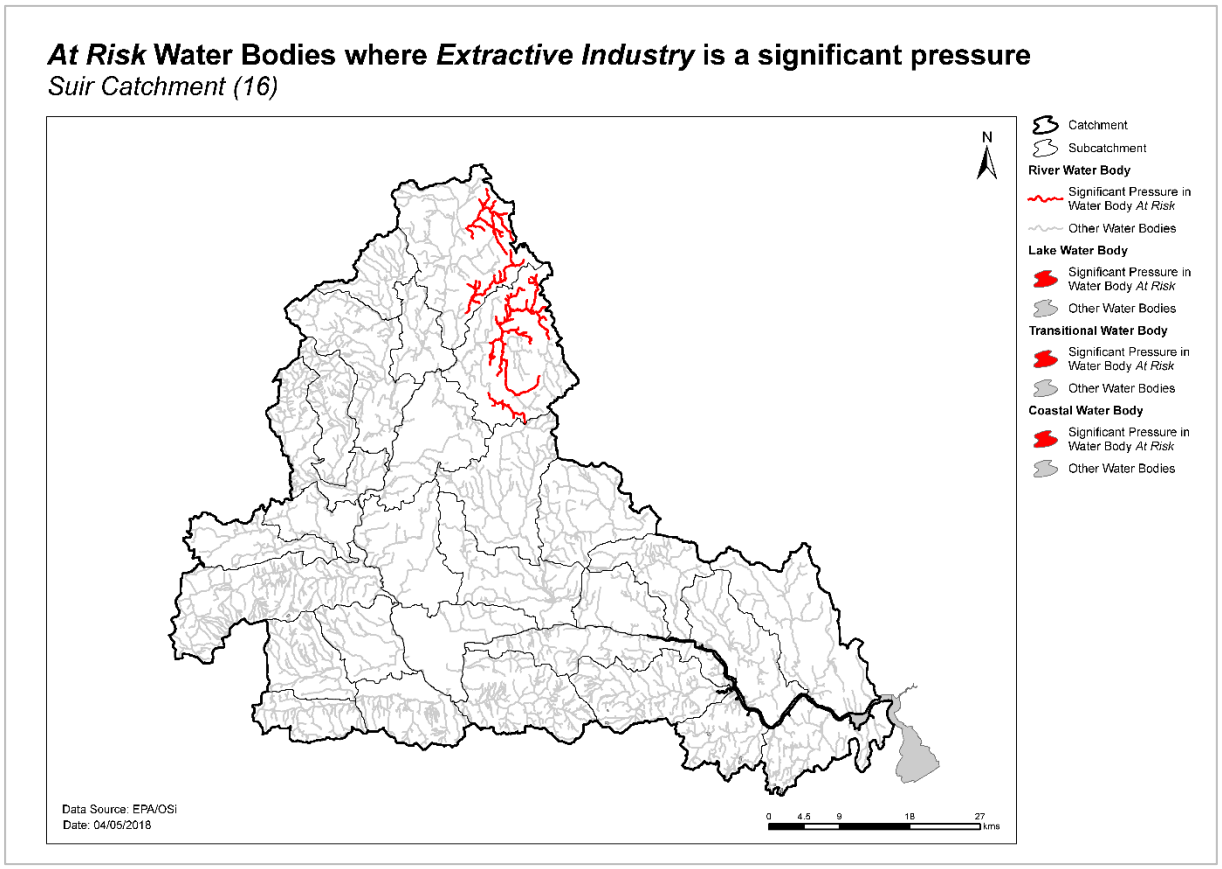


Figure 16. Water bodies that are *At Risk* and are impacted by the Extractive industry

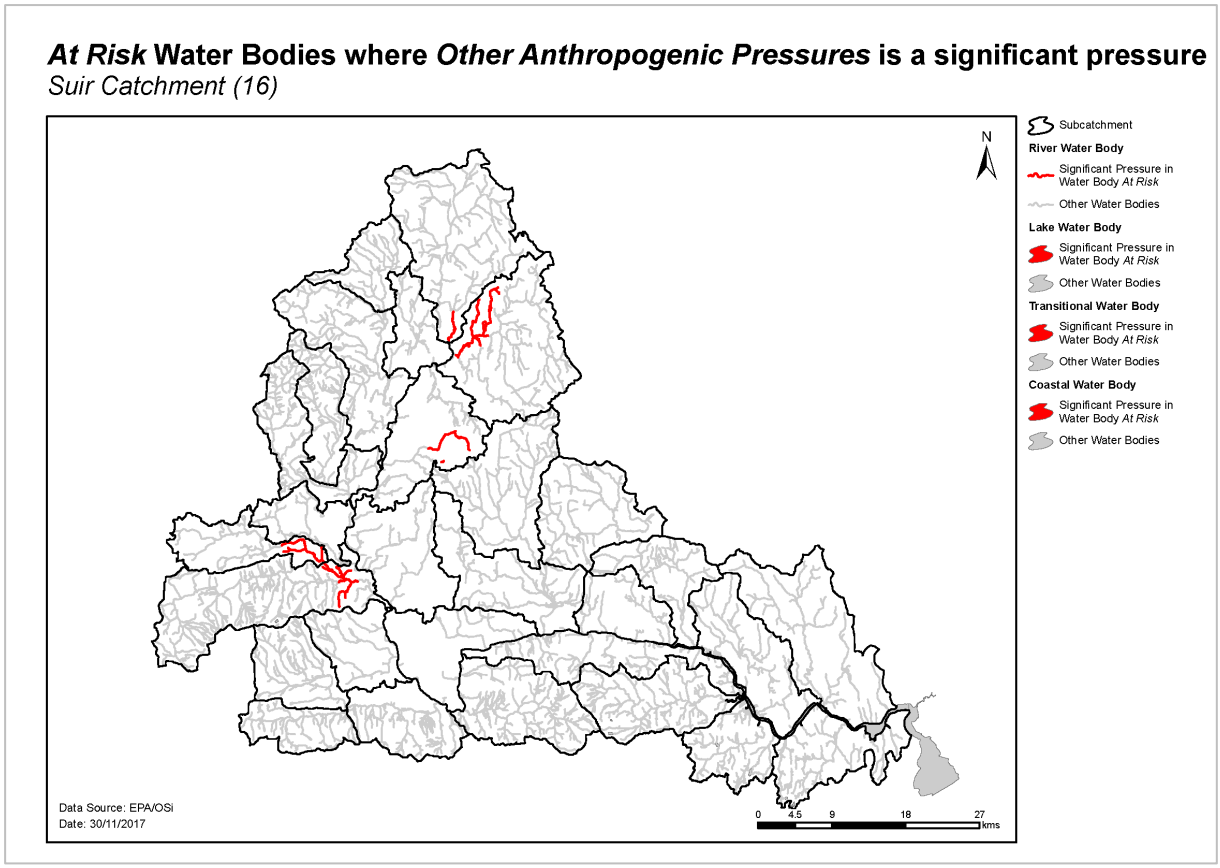


Figure 17. Water bodies that are *At Risk* and are impacted by other anthropogenic pressures

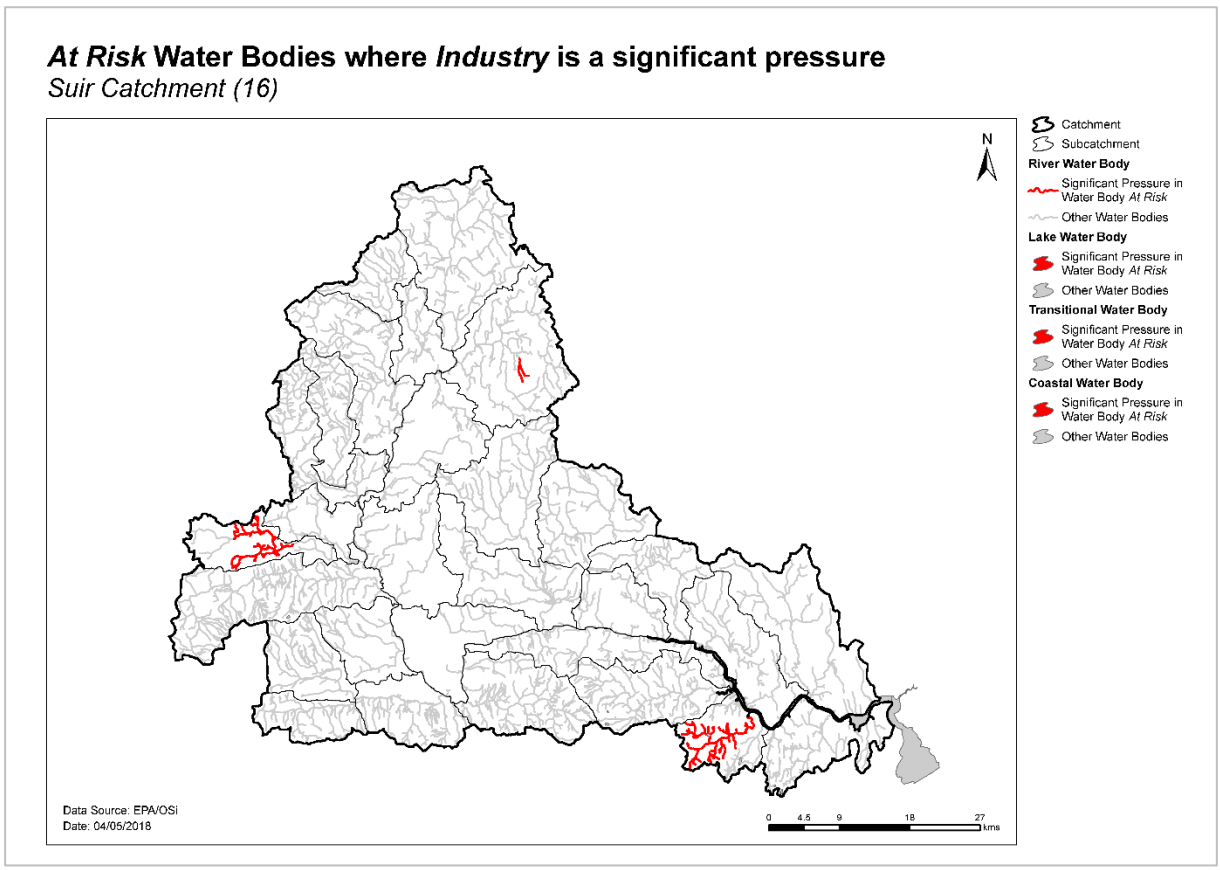


Figure 18. Water bodies that are *At Risk* and are impacted by industry

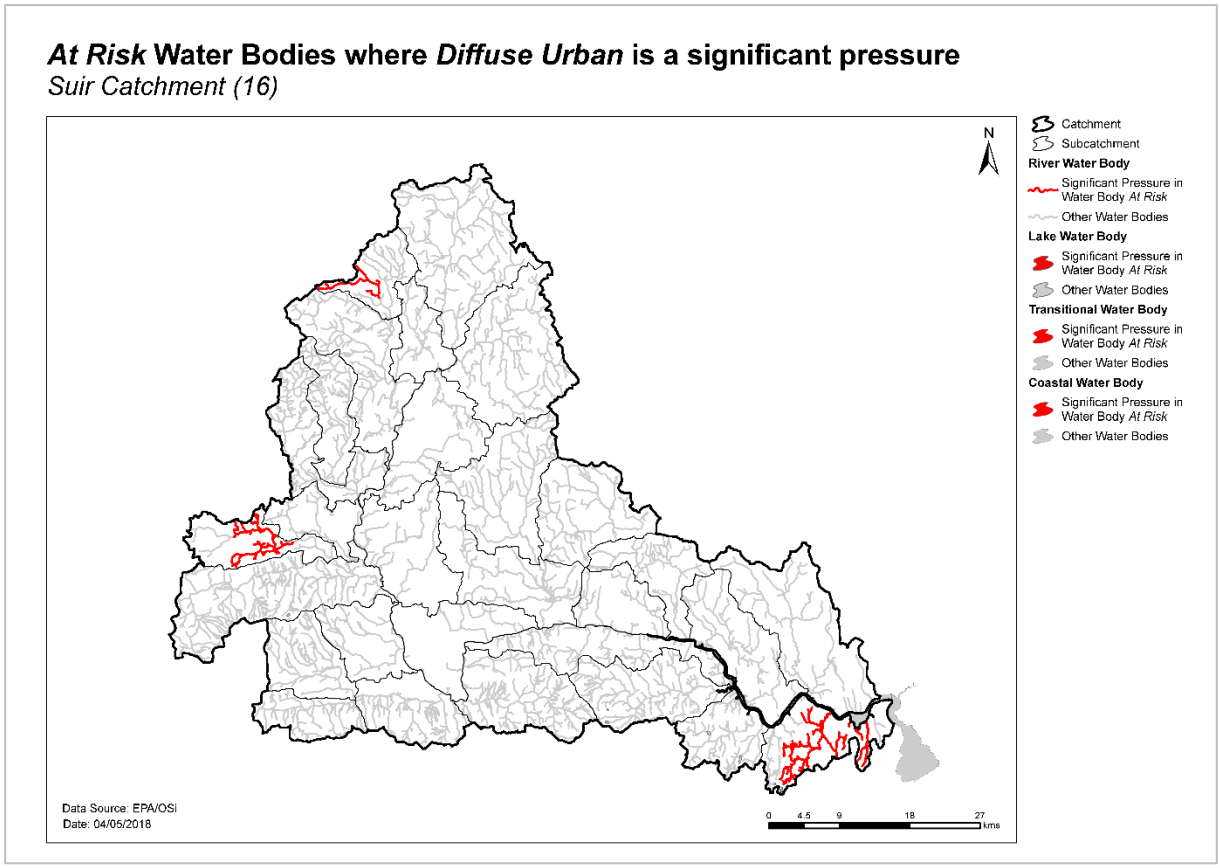


Figure 19. Water bodies that are *At Risk* and are impacted by diffuse urban impacts

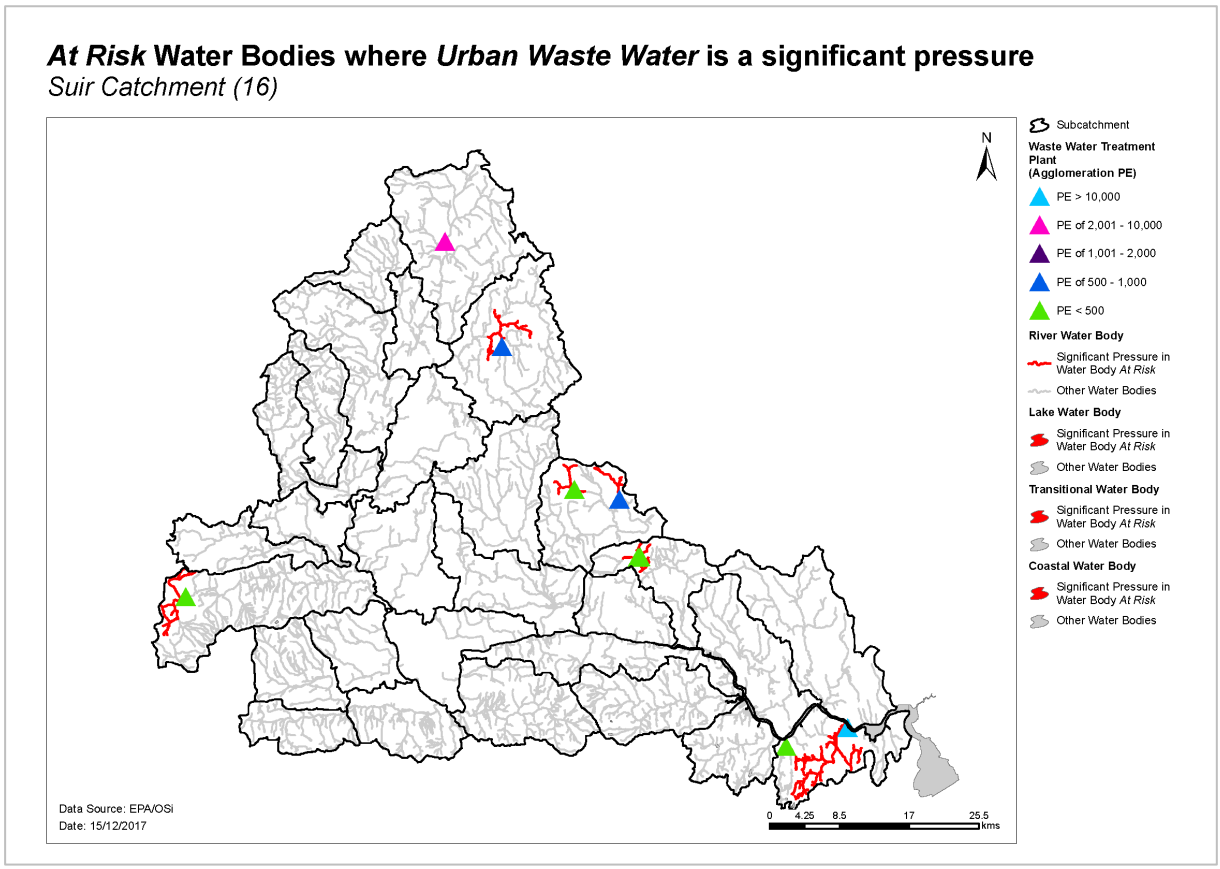


Figure 20. Water bodies that are *At Risk* and are impacted by urban waste water

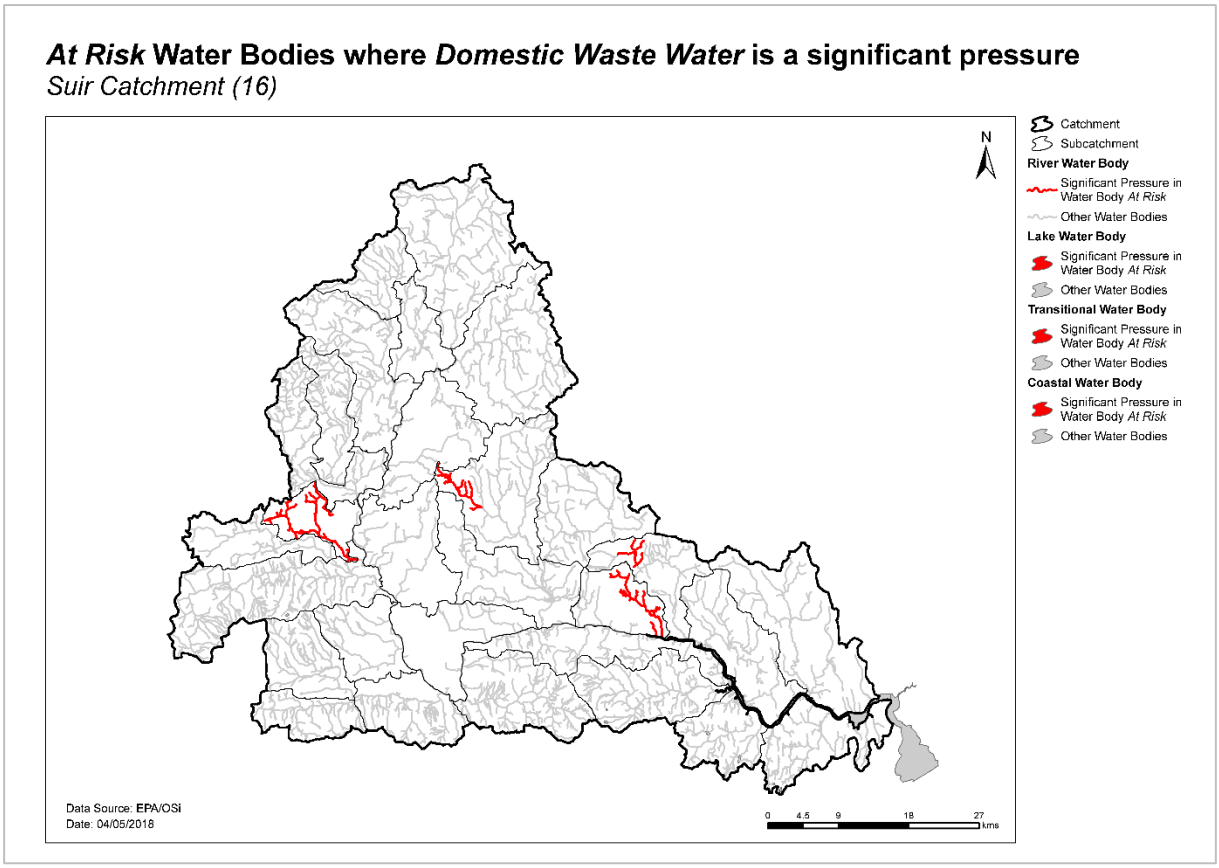


Figure 21. Water bodies that are *At Risk* and are impacted by domestic waste water

5 Load reduction assessment

5.1 River water body load reductions

- The results of the main channel assessment for the Suir indicate that orthophosphate and ammonia concentrations are relatively low, with TON concentrations increasing downstream from the headwaters (Appendix 2).
- For water bodies where phosphorus monitoring data are available, the reduction in P load that would be required to bring the mean concentration back to the EQS of 0.035 mg/l as P, can be estimated using a simple method based on the average 2013 to 2015 concentration and the average flow, or the estimated 30th percentile flow (Q30) where flow data are not available. The relative load reductions are ranked on a national scale from Very High (>1 kg/Ha/y), to High (0.5-1 kg/Ha/y), to Medium (0.25-0.5 kg/Ha/y) to Low (<0.25 kg/Ha/y). Note that P load reductions may also be required in other water bodies, but without chemistry monitoring data a quantitative estimate cannot be calculated.
- In the Suir catchment, water chemistry data are available for 111 of the 170 water bodies. The available data indicate that load reductions are required in 10 river water bodies (Table 9).

Table 9. Relative phosphorus load reductions required in monitored water bodies that are *At Risk.*

Water body	P Load Reduction Required
BORRISOLEIGH STREAM_010	V. High
ARA_020	V. High
MULLINAHONE STREAM_010	High
MOYLE_020	Med
ARA_010	Low
ANNER_010	Low
ANNER_030	Low
ST JOHN'S_020	Low
ST JOHN'S_010	Low
DUAG_010	Low

5.2 TraC load reductions

Some 18 estuaries in Ireland have been monitored on a continual basis since 1990 as part of Ireland's commitment under the Convention for the Protection of the Marine Environment of the North-East Atlantic (the Ospar Convention). This has shown that generally over the long term, nutrients have decreased but further reduction will be required in many cases to support Good Ecological Status. However, many estuaries have not been monitored to the same degree, and where monitoring data in insufficient, an ongoing programme of modelling has been undertaken to estimate potential nutrient load removal from contributing sub-catchments.

Different estuaries may require reductions in different nutrients. Further modelling work is required to determine precisely what load reductions are required, but in the interim, further monitoring will be carried out to assess the improvements resulting from various planned measures, and to confirm the nature of the issues.

- The Suir Estuary system is phosphorus limited and will require reductions in P loads to ensure water quality improvements are achieved. Catchment load apportionment modelling indicates that at the catchment scale, phosphorus from agriculture and urban waste water provide the greatest contributions, in approximately equal proportion. Estuarine modelling has been carried out that suggests that the mean chlorophyll concentrations are only slightly higher than that which would be required to support Good Status. A reduction in P loads throughout the catchment of approximately 8% may be sufficient to reduce the chlorophyll by approximately 4% which would bring the chlorophyll concentrations back within the Good status band. This could be achieved by addressing the excess loads identified in the water bodies in Table 9.

As part of the Irelands commitment to the Ospar Convention, nutrient flux or load monitoring has been carried out on the Suir Estuary since 1990 (Figure 21a and 21b). Further analysis of these nutrient load trends is available at http://dx.doi.org/10.3318/BIOE.2016.23

Figure 21a – Total Nitrogen Load (Tonnes/year) 1990-2015

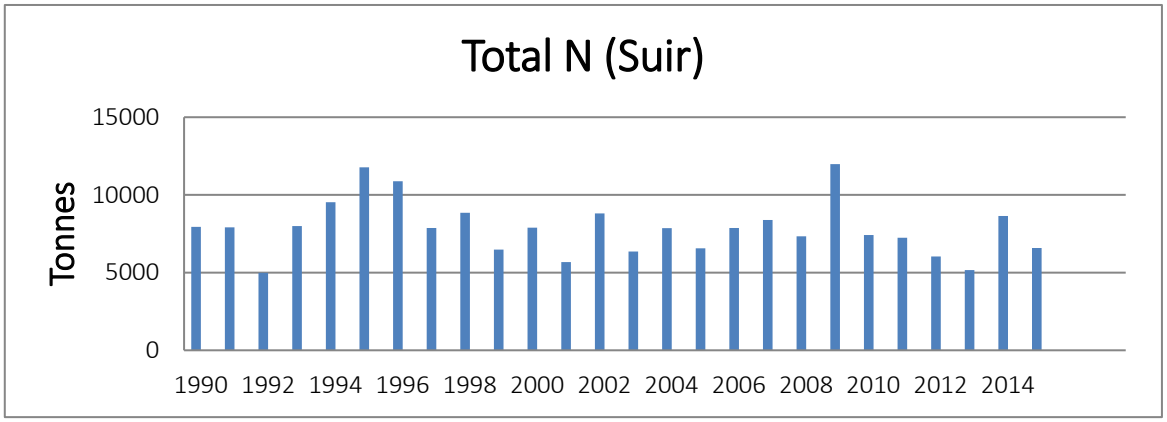
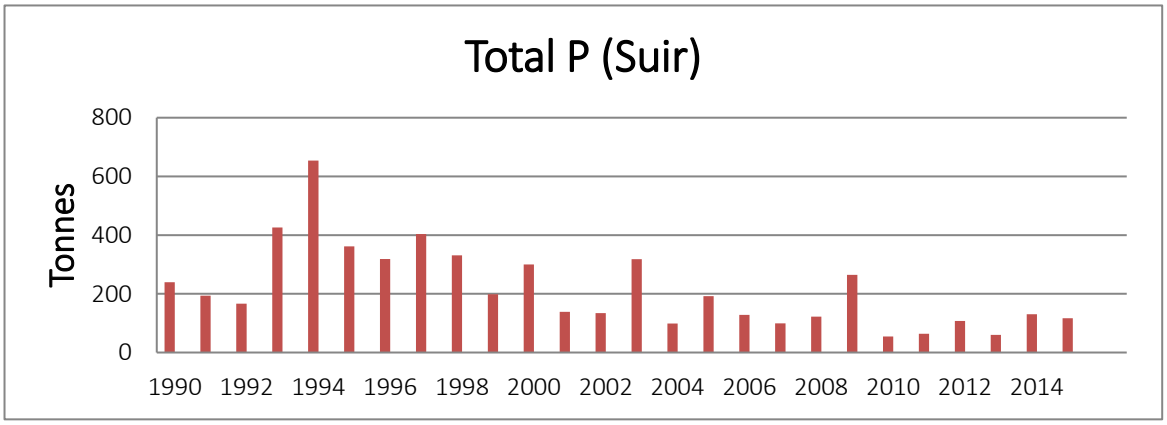


Figure 21b – Total Phosphorus Load (Tonnes/year) 1990-2015



6 Further characterisation and local catchment assessments

- Further characterisation through local catchment assessments is needed in 65 of the *At Risk* river and lake water bodies to refine the understanding of the significant pressures at the site/field scale so that specific and targeted measures can be identified.
- Further characterisation through local catchment assessments is needed in 34 of the *Review* water bodies to refine the understanding of the significant pressures at the site/field scale so that specific and targeted measures can be identified.
- Brief definitions on the 10 IA assessment scenarios are given in Appendix 7.

Table 10. Local catchment assessment allocation for *At Risk* and *Review* river and lake water bodies in the catchment

Risk	IA 1	IA 2	IA 3	IA 4	IA 5	IA 6	IA 7	IA 8	IA 9	IA 10	Total
At Risk	18	1	3	4	7	6	32	4	2	0	77
Review	5	0	28	3	0	0	0	0	0	0	36
Note water bodies may have multiple categories of Local Catchment Assessments											

7 Catchment summary

- Of the 175 river and lake water bodies, 65 are *At Risk* of not meeting their WFD objectives.
- Excess phosphorus leading to eutrophication is a major issue in a significant number of water bodies. While excess ammonia is also of concern, it is only for a limited number of water bodies.
- Hydromorphological (or physical) conditions (including the input of excessive fine sediment) and poor habitat quality are also an issue, however it is for a limited number of surface water bodies.
- There are three *At Risk* transitional water bodies – Lower Suir Estuary, Middle Suir Estuary and Upper Suir Estuary.
- There are five groundwater bodies which are *At Risk.* Bansha and Carrick-on-Suir are hydrologically linked to surface waters that are *At Risk* of not meeting water quality objectives, and groundwater contribution of phosphate may be impacting, and the pressure is agriculture. Industrial Facility (P0225-01) (IESE_G_043) and Waste Facility (W0018-01) (IE_SE_G_175) are *At Risk* due to impacts of ammonia from the associated sites, and Industrial Facility (P0157-02) (IE_SE_G_176) is impacted by aluminium from an industrial site.

8 Areas for Action

The characterisation outcomes described above have highlighted that there is significant work to do in the catchment to protect and restore water quality, and meet the objectives of the WFD. During the development of the draft river basin management plan it became apparent that there would be a need to prioritise areas for collective action so that the best return on investment could be achieved. 190 Areas for action have been selected nationally in a process as described below. There are seven areas for action in the Suir catchment.

8.1 Process of Selection

Following the publication of the draft river basin management plan in early 2017, the EPA and the Local Authority Waters and Communities Office (LAWCO) jointly led a collaborative regional workshop process to determine where, from a technical and scientific perspective, actions should be prioritised in the second cycle. The prioritisation process was based on the priorities in the draft river basin management plan, the evidence from the characterisation process, and the expertise, data and knowledge of public body staff with responsibilities for water and the different pressure types. The recommended areas for action selected during the workshops were then agreed by the Water and Environmental Regional Committees. Since this selection, the Local Authorities Water and Communities Office (LAWCO) have undertaken public engagement and feedback sessions in each local authority.

The recommended areas for action are an initial list of areas where action will be carried out in the second cycle. All water bodies that are At Risk still however, need to be addressed. As issues are resolved, or when feedback from the public engagement process is assessed, areas for action may be removed from the list and new areas will be added. If additional monitoring shows that new issues have arisen, new areas may become a priority and may need to be added to the work programme.

The initial list of areas for action is not therefore considered as a closed or finite list; it simply represents the initial areas where work will be carried out during the second WFD planning cycle from 2018 to 2021.

8.2 Outcomes of process

The outcomes for the Suir catchment are summarised below.

- Seven recommended areas for actions (Table 11, Figure 22) were selected.
- These are the Ara, Borrisoleigh, Clashawley, Lingaun, Aherlow, Clodiagh (Portlaw), and Johns.
- These include 26 river and lake water bodies – 20 *At Risk,* five *Review* and one *Not at Risk*. The *Not at Risk* water body met its environmental objective for ecological status but failed to meet the protected area objective for drinking water.
- Nine groundwater bodies, that are *At Risk* or *Review* due to groundwater contribution of nutrients to surface water bodies, intersect with six of the recommended areas for action, (Table 12). Actions taken to improve surface water will need to take account of the groundwater contribution to surface water.

A remaining 77 *At Risk* and *Review* surface water bodies were not included in the recommended areas for action for the second cycle. The distribution of these is presented in Figure 23. These include:

- 74 river and lake water bodies – 45 *At Risk* and 29 *Review,* and
- three *At Risk* transitional water bodies.

Table 11 Recommended Areas for Action in the Suir catchment

Recommended area for action	Number of water bodies	SCs	Local authority	Reason for Selection
Ara	5	16_13	Tipperary	• County town (Tipperary), with multiple pressures. Long term challenge - four water bodies with consistently Poor or Moderate status. • CFRAM identified this river as potential for Natural Water Retention Measures (NWRM). • Headwater of the river Ara. • Local community group. Application for leader funding to transfer management of the river to the school/local community. • Potential to work with local co-operative.
Borrisoleigh	1	16_5	Tipperary	• Multiple pressures on stream that flows through Borrisoleigh town. Headwaters to the river Fishmoyne. • Strong local development association.
Clashawley	3	16_6	Tipperary	• Building on work completed by Tipperary County Council. • Potential to work with community group. • Large water abstraction. • Potential to work IFI project. • Two deteriorated water bodies. • Three potential 'quick wins'.
Lingaun	2	16_15	Tipperary	• Would bring all water bodies in the subcatchment to Good status. • One deteriorated water body. • One water body that failed to meet protected area objective for drinking water (MCPA failure).
Aherlow	6	16_20	Tipperary Limerick	• Building on ongoing work by Inland Fisheries Ireland regarding a riparian management scheme. • Strong community groups. • Entire subcatchment project. • Headwaters of the river Aherlow. • Three water bodies are failing to meet protected area objectives for Salmonids. • Five deteriorated water bodies.
Clodiagh (Portlaw)	1	16_17	Waterford	• Headwaters of the Clodiagh (Portlaw). • The only water body in the subcatchment that is less than Good status. • Not meeting protected area objective for Freshwater Pearl Mussel habitat (19 of 27 catchments of S.I. 296 2009). • Potential pilot project in an area with a high number of derogation farms.
Johns	8	16_19	Waterford	• Longer term challenge. • Discharges into the Middle Suir Estuary which is a Nutrient Sensitive Area that is not meeting its protected area objective. • Upstream of estuary where locals have reported mussel die off. • Building on planned Drainage Area Plan for Waterford city. • Building on upcoming biodiversity audit that Waterford County Council are funding. • Active community group with an interest in invasive species.

Table 12 Groundwater bodies intersecting with surface water bodies in recommended areas for action

Groundwater bodies			Intersecting surface water bodies		Recommended Area for Action
Code	Name	Risk	Code	Name	
IE_SE_G_016	Bansha	At risk	IE_SE_16A010200	AHERLOW_020	Aherlow
			IE_SE_16A010300	AHERLOW_030	
			IE_SE_16A010500	AHERLOW_040	
IE_SE_G_024	Cahir	Review	IE_SE_16A010600	AHERLOW_050	
			IE_SE_16A010900	AHERLOW_080	
IE_SE_G_091	Lisvarrinane	Review	IE_SE_16A010200	AHERLOW_020	
			IE_SE_16A010300	AHERLOW_030	
			IE_SE_16A010500	AHERLOW_040	
			IE_SE_16A010600	AHERLOW_050	
			IE_SE_16A010900	AHERLOW_080	
IE_SE_G_131	Templemore	Review	IE_SE_16A010200	AHERLOW_020	
			IE_SE_16A010300	AHERLOW_030	
			IE_SE_16A010600	AHERLOW_050	
			IE_SE_16A030100	ARA_010	Ara
			IE_SE_16A030300	ARA_020	
			IE_SE_16A030440	ARA_030	
			IE_SE_16A030600	ARA_040	
			IE_SE_16S090570	Shroughnagowneen_010	
IE_SE_G_016	Bansha	At risk	IE_SE_16A030600	ARA_040	
IE_SE_G_091	Lisvarrinane	Review	IE_SE_16A030600	ARA_040	
IE_SE_G_145	Tipperary	Review	IE_SE_16A030100	ARA_010	
			IE_SE_16A030300	ARA_020	
			IE_SE_16A030440	ARA_030	
			IE_SE_16S090570	Shroughnagowneen_010	
IE_SE_G_131	Templemore	Review	IE_SE_16B060600	BORRISOLEIGH STREAM_010	Borrisoleigh
			IE_SE_16C010050	CLASHAWLEY_010	Clashawley
IE_SE_G_126	Slieveardagh Hills	Review	IE_SE_16C010050	CLASHAWLEY_010	
			IE_SE_16K050200	KILLENAULE STREAM_010	
IE_SE_G_040	Clonmel	Review	IE_SE_16B070800	BALLINTEMPLE STREAM_010	
			IE_SE_16C010050	CLASHAWLEY_010	
			IE_SE_16L010600	LINGAUN_050	Lingaun
IE_SE_G_030	Carrick-on-Suir	At risk	IE_SE_16L010600	LINGAUN_050	
			IE_SE_16G770380	GLENGRANT_010	Johns
IE_SE_G_149	Waterford	Review	IE_SE_16B080100	Ballymoat (Stream)_010	
			IE_SE_16F150440	FAITHLEGG_010	
			IE_SE_16G770380	GLENGRANT_010	
			IE_SE_16H020300	HALFWAY HOUSE STREAM_010	
			IE_SE_16S030400	ST JOHN'S_010	
			IE_SE_16S030600	ST JOHN'S_020	
			IE_SE_16_460	Ballyscanlan	
			IE_SE_17_8	Carrigavantry	

9 Environmental Objectives

9.1 Surface Water

The environmental objectives are the target status for each *At Risk* or *Review* water body and the date by which that status is expected to be achieved (Appendix 3). Where a water body is *Not at Risk* and is already at its target status, the environmental objective is deemed to have been met.

- Assuming resources are available and actions are taken in the recommended areas for action, of the 20 *At Risk* surface water bodies, it is predicted that 3 (15%) will improve by 2021 and 17 (75%) will achieve their objective by 2027. For the five *Review* surface water bodies, the absence of information on these water bodies means that there is no scientific basis to quantify an environmental objective date and therefore a 2027 date is set, see Table 13.

Table 13 Environmental objective dates for water bodies in the Recommended Areas for Action

Risk Category	No. of Water Bodies	No. of WBs for 2021 Improvement	No. of WBs for 2027 Status Improvement
Rivers			
At Risk	18	3	15
Review	5	0	5
Not at Risk	1	0	0
Lake			
At Risk	2	0	2
Review	0	0	0
Not at Risk	0	0	0
Total	26	3	22

- Seventy-seven surface water bodies have met their 2015 environmental objective. Two of the 77 water bodies met their environmental objective for ecological status but failed to meet their protected area objectives.
- An industrial facility is the single significant pressure in one of the remaining 48 *At Risk* water bodies and, thus, a 2021 objective is set. As action is not yet planned to be taken in the remaining 47 *At Risk* surface water bodies, a 2027 date is applied to all 47 water bodies.
- For the 29 *Review* surface water bodies, the absence of information on 28 of these water bodies means that there is no scientific basis to quantify an environmental objective date and therefore a 2027 date is set. For one of the 29 *Review* surface water bodies, Good ecological status was recorded but nutrient concentrations are elevated. It is predicted that this water body will improve by 2021, see Table 14.

Table 14 Environmental objectives dates in the *At Risk* and *Review* surface water bodies not included in Recommended Areas for Action

Risk Category	No. of Water Bodies	No. of WBs for 2021 Improvement	No. of WBs for 2027 Status Improvement
Rivers			
At Risk	44	1	43
Review	28	0	28
Lakes			
At Risk	1	0	1
Review	1	0	1
TraCs			
At Risk	3	0	3
Review	0	0	0
Total	77	1	76

9.2 Groundwater

- Fifteen of the 18 groundwater bodies are currently Good status and, therefore, have met their environmental objectives.
- Of the three groundwater bodies that are Poor status, all have an environmental objective date of 2027.

Table 15 Environmental Objective dates of Poor status groundwater bodies in the Suir catchment

Water body code	Water body name	Environmental Objective
IE_SE_G_175	Waste Facility (W0018-01)	2027
IE_SE_G_043	Industrial Facility (P0225-01)	2027
IE_SE_G_176	Industrial Facility (P0157-02)	2027

10 Acknowledgements

This Suir Catchment Assessment (Version 3) has been produced by the Catchment Science & Management Unit, EPA, with the assistance of the following:

- Tipperary County Council.
- Kilkenny County Council.
- Waterford City and County Council.
- Limerick City and County Council.
- Laois County Council.
- Inland Fisheries Ireland.
- Local Authorities Waters & Communities Office.
- Irish Water.
- RPS Group.
- Ecological Monitoring & Assessment Unit, EPA.
- Hydrometric & Groundwater Section, EPA.
- Informatics Section, EPA.
- Laboratories, EPA.
- Office of Environmental Enforcement, EPA.
- Department of Housing, Planning and Local Government.
- DAFM Agriculture.
- DAFM Forest Service.
- Coillte.
- Teagasc.
- Geological Survey Ireland.
- National Federation of Group Water Schemes.
- National Parks and Wildlife Service.
- Waterways Ireland.
- Board Iascaigh Mhara.
- Sea Fisheries Protection Authority.

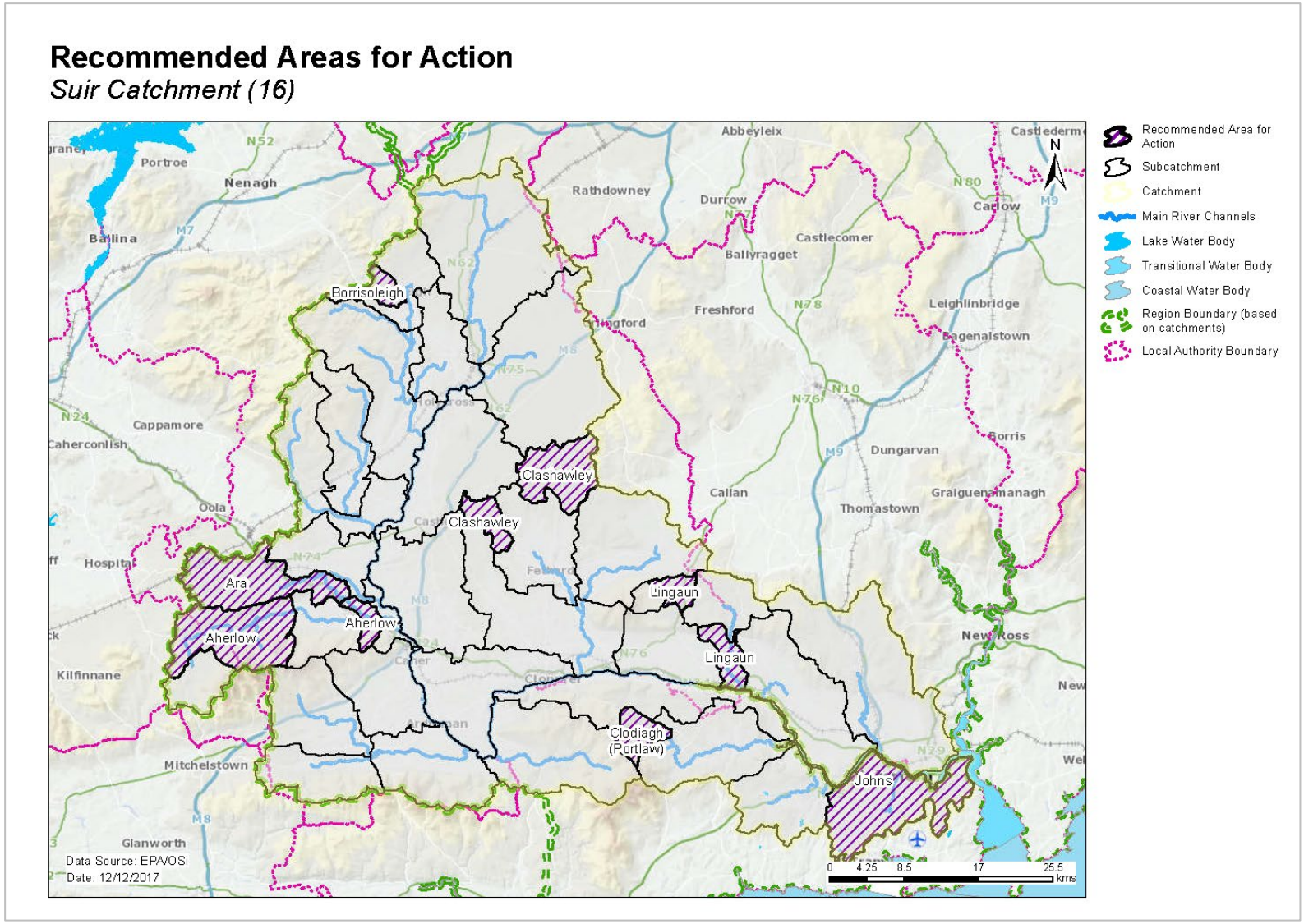


Figure 22. Location of Recommended Areas for Action in the Suir Catchment

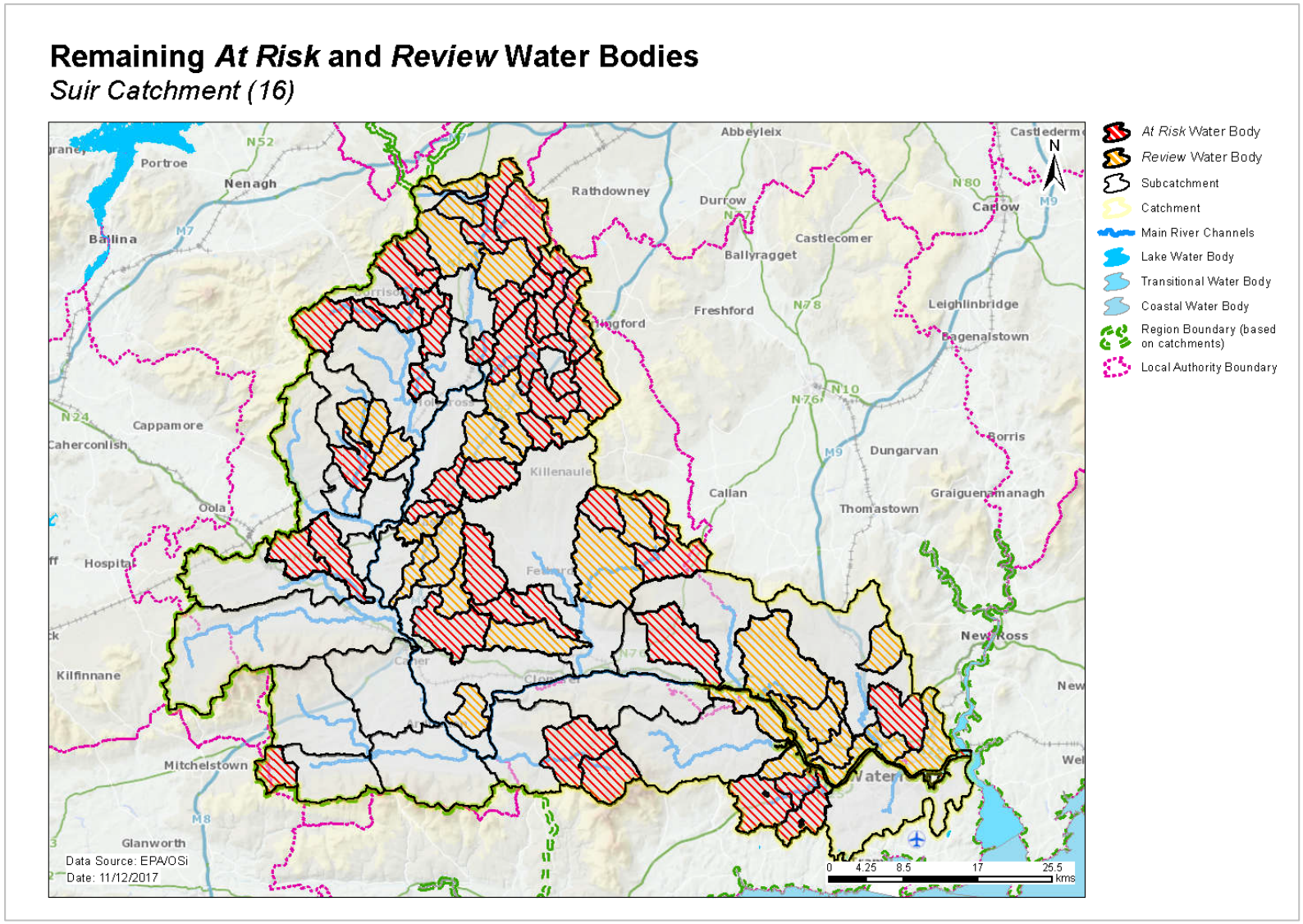


Figure 23. Location of *At Risk* and *Review* water bodies located outside Recommended Areas for Action in the Suir Catchment

Appendix 1 High ecological status objective water bodies and sites

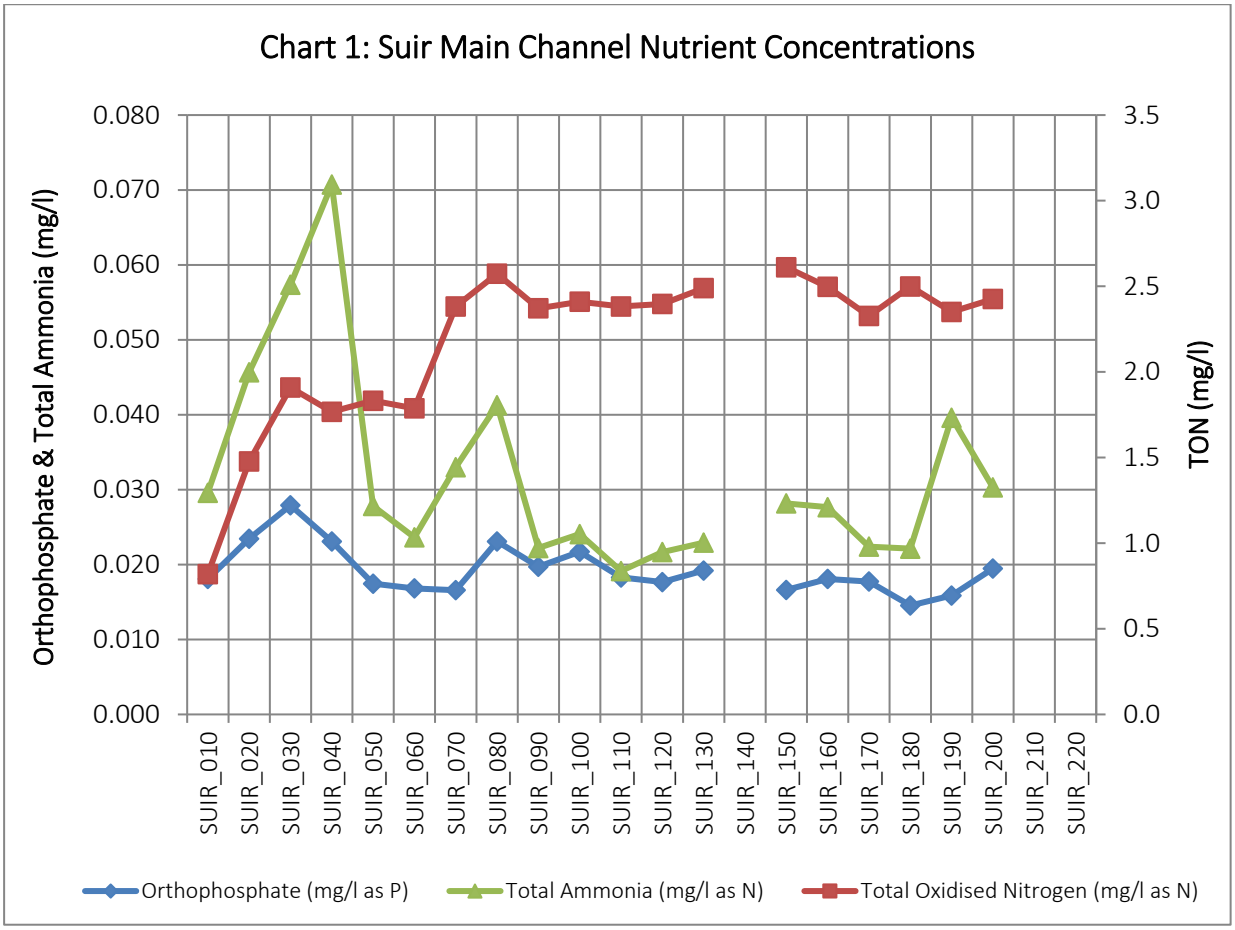
Water body/ Site	Type	Codes	2015 Status
AUGHNAGLANNY_010	River	IE_SE_16A050100	High
BURNCOURT_020	River	IE_SE_16B040310	High
CLODIAGH (TIPPERARY)_010	River	IE_SE_16C020040	Good
CLODIAGH (TIPPERARY)_020	River	IE_SE_16C020080	Good
GLASHA (WATERFORD)_010	River	IE_SE_16G010400	High
LINGAUN_010	River	IE_SE_16L010050	High
NIER_010	River	IE_SE_16N010010	Good
NIER_020	River	IE_SE_16N010100	Good
TAR_010	River	IE_SE_16T010030	High

Appendix 2 Catchment scale nutrient concentrations and in-stream loads

The results of the water quality assessment for the Suir catchment are illustrated in Chart 1. This shows that the 2013-2015 baseline orthophosphate concentrations along the main channel range from 0.015mg/l to 0.028mg/l. The EQS for orthophosphate (0.035mg/l) was not exceeded at any of the sampling locations along the main channel. The highest concentration (0.028mg/l) occurred at SUIR_030.

Ammonia concentrations increase from the headwaters at SUIR_010 to SUIR_040, where the EQS (0.065mg/l) is exceeded. Except for SUIR_040, ammonia concentrations were below the threshold at all points along the channel.

The TON concentrations in the river headwaters (SUIR_010) are relatively low (0.8mg/l) but increase markedly to 1.9mg/l at SUIR_030. Between SUIR_060 and SUIR_080, TON again shows a significant increase in concentration from 1.8 to 2.6mg/l. In the remainder of the channel, TON remains relatively high.



The Suir channel nutrient loads are presented in Chart 2. Orthophosphate, ammonia and TON loads increased downstream corresponding to increasing stream flow. Localised peaks in ammonia concentration in downstream reaches resulted in significantly greater loads compared to upstream sampling points.

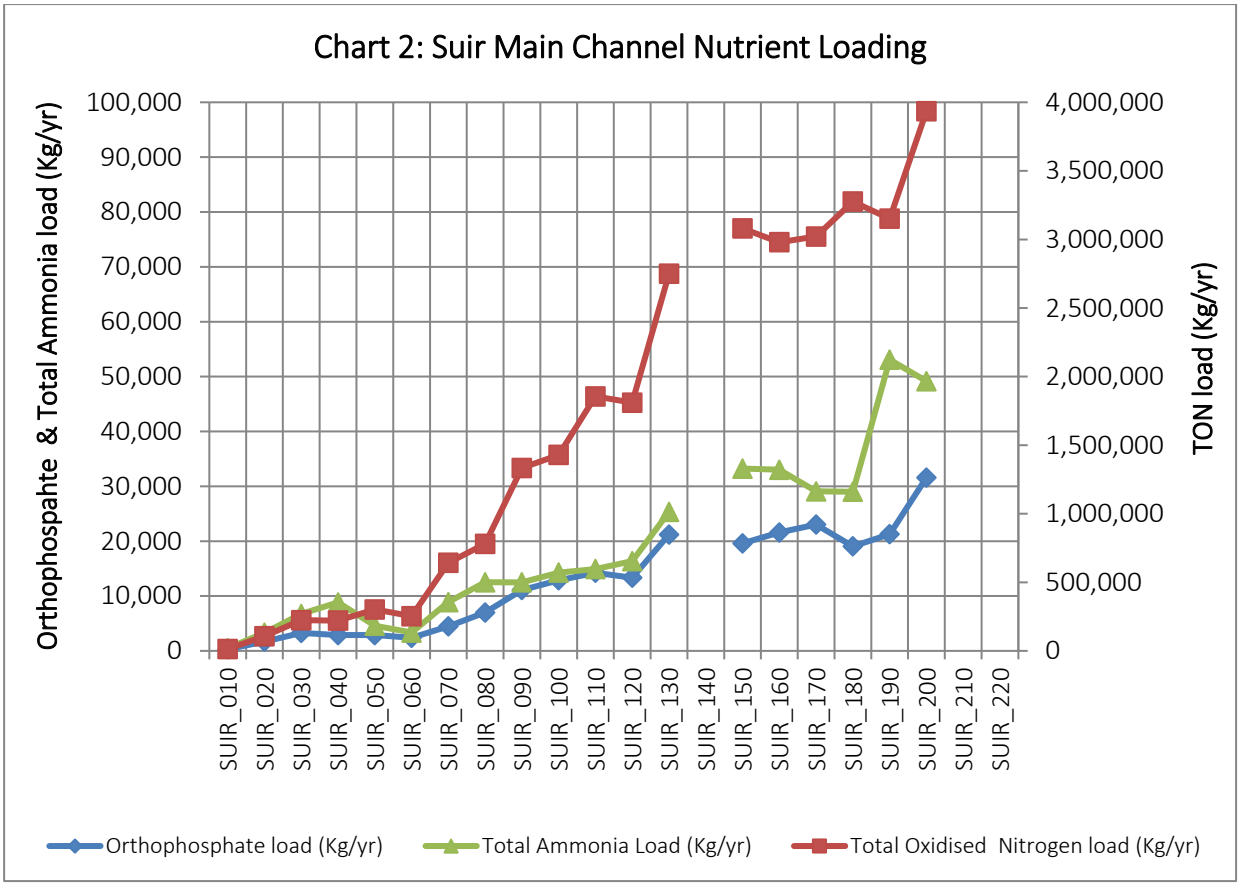


Chart 2: Suir Main Channel Nutrient Loading
Orthophospahte & Total Ammonia load (Kg/yr)
TON load (Kg/yr)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
SUIR_010
SUIR_020
SUIR_030
SUIR_040
SUIR_050
SUIR_060
SUIR_070
SUIR_080
SUIR_090
SUIR_100
SUIR_110
SUIR_120
SUIR_130
SUIR_140
SUIR_150
SUIR_160
SUIR_170
SUIR_180
SUIR_190
SUIR_200
SUIR_210
SUIR_220
Orthophosphate load (Kg/yr)
Total Ammonia Load (Kg/yr)
Total Oxidised Nitrogen load (Kg/yr)

Appendix 3 Summary information on *At Risk* and *Review* river and lake water bodies

Subcatchment code	Water body code	Water body name	Water body type	Risk	Ecological Status 07-09	Ecological Status 10-15	High Ecological Status Objective Water Body Y/N	Significant Pressures	Date to Meet Environmental Objective	Recommended Area for Action Name
16_1	IE_SE_16D030100	Duag_010	River	At risk	Good	Moderate	N	Ag	2027	
16_2	IE_SE_16F020200	Farneybridge_010	River	At risk	Poor	Poor	N	Hymo	2027	
16_2	IE_SE_16F020500	Farneybridge_020	River	At risk	Poor	Moderate	N	Hymo	2027	
16_2	IE_SE_16F020700	Farneybridge_040	River	At risk	Good	Poor	N	Hymo	2027	
16_3	IE_SE_16N010010	Nier_010	River	At risk	High	Good	Y	Hymo	2027	
16_3	IE_SE_16N010100	Nier_020	River	At risk	High	Good	Y	For	2027	
16_4	IE_SE_16M080300	Multeen (East)_020	River	Review	High	Good	N		2027	
16_4	IE_SE_16M080400	Multeen (East)_030	River	At risk	Unassigned	Moderate	N	Ag,For	2027	
16_5	IE_SE_16B060600	Borrisoleigh Stream_010	River	At risk	Moderate	Moderate	N	Ag,DU,Other	2027	Borrisoleigh
16_5	IE_SE_16F030040	Fishmoyne_010	River	At risk	Poor	Poor	N	Ag,For,Hymo	2027	
16_5	IE_SE_16F030200	Fishmoyne_020	River	At risk	Unassigned	Moderate	N	Hymo	2027	
16_5	IE_SE_16F030300	Fishmoyne_030	River	At risk	Poor	Poor	N	Ag,Hymo	2027	
16_6	IE_SE_16B070800	Ballintemple Stream_010	River	At risk	Good	Moderate	N	Ag,DWW	2021	Clashawley
16_6	IE_SE_16C010050	Clashawley_010	River	At risk	Good	Moderate	N	Ag	2021	Clashawley
16_6	IE_SE_16K050200	Killenaule Stream_010	River	At risk	Poor	Poor	N	Ag	2021	Clashawley
16_7	IE_SE_16D040300	Dawn_010	River	At risk	Unassigned	Unassigned	N	Ag,Ind	2027	
16_7	IE_SE_16D040500	Dawn_020	River	At risk	Unassigned	Unassigned	N	Ind	2021	
16_7	IE_SE_16D290570	Darrigal_010	River	Review	Unassigned	Unassigned	N		2027	
16_7	IE_SE_16_294	Knockaderry	Lake	At risk	Poor	Poor	N	Ag	2027	
16_7	IE_SE_16_463	Ballyshunnock	Lake	Review	Poor	Poor	N		2027	
16_7	IE_SE_16W010400	Whelan's Bridge Stream_010	River	At risk	Unassigned	Unassigned	N	Ag	2027	
16_8	IE_SE_16K520950	Knocknagree_010	River	Review	Unassigned	Unassigned	N		2027	
16_9	IE_SE_16O010100	Outeragh Stream_010	River	Review	Unassigned	Unassigned	N		2027	
16_9	IE_SE_16R020200	Rockwell Stream_010	River	Review	Unassigned	Unassigned	N		2027	
16_9	IE_SE_16R020300	Rockwell Stream_020	River	Review	Unassigned	Unassigned	N		2027	
16_9	IE_SE_16O010200	Outeragh Stream_020	River	At risk	Moderate	Moderate	N	Ag	2027	
16_10	IE_SE_16L230480	Lisnagonoge_010	River	Review	Unassigned	Unassigned	N		2027	
16_10	IE_SE_16S410470	St_Patricksrock_010	River	Review	Unassigned	Unassigned	N		2027	
16_10	IE_SE_16A040100	Arglo_010	River	At risk	Moderate	Moderate	N	Other	2027	

Subcatchment code	Water body code	Water body name	Water body type	Risk	Ecological Status 07-09	Ecological Status 10-15	High Ecological Status Objective Water Body Y/N	Significant Pressures	Date to Meet Environmental Objective	Recommended Area for Action Name
16_10	IE_SE_16A040200	Arglo_020	River	At risk	Moderate	Moderate	N	Ag	2027	
16_10	IE_SE_16B050100	Black Stream (Cashel)_010	River	At risk	Poor	Poor	N	Ag	2027	
16_11	IE_SE_16F010100	Fidaghta_010	River	At risk	Moderate	Poor	N	Ag,DWW	2027	
16_11	IE_SE_16F010300	Fidaghta_020	River	At risk	Moderate	Moderate	N	Ag,DWW	2027	
16_12	IE_SE_16G040200	Glenbrook_010	River	At risk	Unassigned	Unassigned	N	Ag,DWW	2027	
16_12	IE_SE_100_0600	Upper Suir Estuary	Transitional	At risk	Moderate	Moderate	N	Ag	2027	
16_13	IE_SE_16S090570	Shroughnagowneen_010	River	Review	Unassigned	Unassigned	N		2027	Ara
16_13	IE_SE_16A030100	Ara_010	River	At risk	Poor	Poor	N	Ag	2027	Ara
16_13	IE_SE_16A030300	Ara_020	River	At risk	Poor	Poor	N	Ag,DU,Ind	2027	Ara
16_13	IE_SE_16A030440	Ara_030	River	At risk	Moderate	Moderate	N	DU,Ind	2027	Ara
16_13	IE_SE_16A030600	Ara_040	River	At risk	Moderate	Moderate	N	Other	2027	Ara
16_15	IE_SE_16L010200	Lingaun_020	River	At risk	Good	Moderate	N	DWW,UWW	2027	Lingaun
16_15	IE_SE_16L010600	Lingaun_050	River	Not at risk	Good	Good	N		N/A	Lingaun
16_16	IE_SE_16T310740	Tinhalla_010	River	Review	Unassigned	Unassigned	N		2027	
16_16	IE_SE_100_0550	Middle Suir Estuary	Transitional	At risk	Moderate	Poor	N	Ag	2027	
16_17	IE_SE_16C030100	Clodiagh (Portlaw)_010	River	At risk	Moderate	Moderate	N	Ag,For	2027	Clodiagh (Portlaw)
16_19	IE_SE_16B080100	Ballymoat (Stream)_010	River	Review	Unassigned	Unassigned	N		2027	Johns
16_19	IE_SE_16F150440	Faithlegg_010	River	Review	Unassigned	Unassigned	N		2027	Johns
16_19	IE_SE_16G770380	Glengrant_010	River	Review	Unassigned	Unassigned	N		2027	Johns
16_19	IE_SE_16_460	Ballyscanlan	Lake	At risk	Moderate	Moderate	N	Ag	2027	Johns
16_19	IE_SE_16H020300	Halfway House Stream_010	River	At risk	Moderate	Moderate	N	DU	2027	Johns
16_19	IE_SE_16S030400	St John's_010	River	At risk	Bad	Poor	N	DU	2027	Johns
16_19	IE_SE_16S030600	St John's_020	River	At risk	Poor	Poor	N	Ag,DU,UWW	2027	Johns
16_19	IE_SE_17_8	Carrigavantry	Lake	At risk	Moderate	Moderate	N	For	2027	Johns
16_19	IE_SE_100_0500	Lower Suir Estuary (Little Island - Cheekpoint)	Transitional	At risk	Good	Moderate	N	Ag	2027	
16_20	IE_SE_16A010600	Aherlow_050	River	Review	Unassigned	Unassigned	N		2027	Aherlow
16_20	IE_SE_16A010200	Aherlow_020	River	At risk	Good	Moderate	N	Ag,UWW	2027	Aherlow
16_20	IE_SE_16A010300	Aherlow_030	River	At risk	Good	Moderate	N	Ag	2027	Aherlow
16_20	IE_SE_16A010500	Aherlow_040	River	At risk	Good	Moderate	N	For	2027	Aherlow
16_20	IE_SE_16A010900	Aherlow_080	River	At risk	Good	Moderate	N	Other	2027	Aherlow

Subcatchment code	Water body code	Water body name	Water body type	Risk	Ecological Status 07-09	Ecological Status 10-15	High Ecological Status Objective Water Body Y/N	Significant Pressures	Date to Meet Environmental Objective	Recommended Area for Action Name
16_20	IE_SE_16R060100	Rossadrehid Stream_010	River	At risk	Moderate	Poor	N	For	2027	Aherlow
16_21	IE_SE_16B030200	Breagagh (Tipperary)_010	River	At risk	Unassigned	Unassigned	N	Peat	2027	
16_21	IE_SE_16B030400	Breagagh (Tipperary)_020	River	Review	Unassigned	Unassigned	N		2027	
16_21	IE_SE_16D020068	Drish_020	River	At risk	Unassigned	Unassigned	N	Ag,For,Peat	2027	
16_21	IE_SE_16B010100	Black (Twomileborris)_010	River	At risk	Moderate	Moderate	N	Peat	2027	
16_21	IE_SE_16N280780	North Glengoole_010	River	Review	Unassigned	Unassigned	N		2027	
16_21	IE_SE_16C040100	Clover_010	River	At risk	Unassigned	Poor	N	For,Ind	2027	
16_21	IE_SE_16D020040	Drish_010	River	At risk	Poor	Poor	N	For	2027	
16_21	IE_SE_16D020070	Drish_030	River	At risk	Poor	Poor	N	Peat	2027	
16_21	IE_SE_16D020100	Drish_040	River	At risk	Poor	Poor	N	M+Q,Peat	2027	
16_21	IE_SE_16D020200	Drish_050	River	At risk	Poor	Moderate	N	Peat,UWW	2027	
16_21	IE_SE_16D020400	Drish_060	River	At risk	Poor	Moderate	N	Other	2027	
16_22	IE_SE_16A280760	Aughall_Beg_010	River	Review	Unassigned	Unassigned	N		2027	
16_22	IE_SE_16E170590	Eastwood_010	River	Review	Unassigned	Unassigned	N		2027	
16_22	IE_SE_16R070860	Rossnamanniff_Lower_010	River	Review	Unassigned	Unassigned	N		2027	
16_22	IE_SE_16C111000	Clonmore Stream (Suir)_010	River	At risk	Poor	Moderate	N	Peat	2027	
16_22	IE_SE_16R010040	Rossestown_010	River	At risk	Poor	Poor	N	M+Q,Peat	2027	
16_22	IE_SE_16R010150	Rossestown_020	River	At risk	Poor	Poor	N	Hymo,M+Q, Peat	2027	
16_22	IE_SE_16R010300	Rossestown_030	River	At risk	Poor	Poor	N	M+Q,Peat	2027	
16_22	IE_SE_16S020200	Suir_020	River	At risk	Moderate	Poor	N	Ag	2027	
16_22	IE_SE_16S020300	Suir_030	River	Review	Poor	Moderate	N		2027	
16_22	IE_SE_16S020600	Suir_060	River	At risk	Poor	Moderate	N	Other	2027	
16_23	IE_SE_16B090860	Ballyclerihan Stream_010	River	Review	Unassigned	Unassigned	N		2027	
16_23	IE_SE_16M010200	Moyle_020	River	At risk	Unassigned	Unassigned	N	Ag	2027	
16_23	IE_SE_16M010050	Moyle_010	River	At risk	Poor	Moderate	N	Hymo	2027	
16_23	IE_SE_16M010400	Moyle_030	River	At risk	Poor	Moderate	N	Ag	2027	
16_24	IE_SE_16A020200	Anner_010	River	At risk	Poor	Poor	N	Ag,UWW	2027	
16_24	IE_SE_16A020340	Anner_020	River	Review	Poor	Moderate	N		2027	
16_24	IE_SE_16A020600	Anner_030	River	At risk	Moderate	Moderate	N	Ag	2027	
16_24	IE_SE_16A020800	Anner_040	River	Review	Good	Good	N		2027	
16_24	IE_SE_16M090500	Mullinahone Stream_010	River	At risk	Poor	Poor	N	UWW	2027	
16_27	IE_SE_16B850830	Ballytarsney_010	River	Review	Unassigned	Unassigned	N		2027	

Subcatchment code	Water body code	Water body name	Water body type	Risk	Ecological Status 07-09	Ecological Status 10-15	High Ecological Status Objective Water Body Y/N	Significant Pressures	Date to Meet Environmental Objective	Recommended Area for Action Name
16_27	IE_SE_16F170700	Flemingstown 16_010	River	Review	Unassigned	Unassigned	N		2027	
16_27	IE_SE_16P010910	Pil 16_010	River	Review	Unassigned	Unassigned	N		2027	
16_27	IE_SE_16S040450	Skelpstown16_010	River	Review	Unassigned	Unassigned	N		2027	
16_27	IE_SE_16U010850	Ullid 16_010	River	Review	Unassigned	Unassigned	N		2027	
16_28	IE_SE_16F200470	Fana_010	River	Review	Unassigned	Unassigned	N		2027	
16_28	IE_SE_16P260500	Piercetown 16_010	River	Review	Unassigned	Unassigned	N		2027	
16_28	IE_SE_16C020040	Clodiagh (Tipperary)_010	River	At risk	High	Good	Y	For,Hymo	2027	
16_28	IE_SE_16C020080	Clodiagh (Tipperary)_020	River	At risk	Good	Good	Y	For	2027	
16_29	IE_SE_16B020091	Blackwater (Kilmacow)_020	River	Review	Unassigned	Unassigned	N		2027	
16_29	IE_SE_16B020500	Blackwater (Kilmacow)_050	River	Review	Unassigned	Unassigned	N		2027	
16_29	IE_SE_16L680750	Luffany_010	River	Review	Unassigned	Unassigned	N		2027	
16_29	IE_SE_16S070800	Smartscastle Stream_020	River	At risk	Good	Moderate	N	Ag	2027	

Ag: Agriculture

DWW: Domestic Waste Water

For: Forestry

Hymo: Hydromorphology

Ind: Industry

M+Q: Mines and Quarries

Peat: Peat Drainage and Extraction

DU: Diffuse Urban

UWW: Urban Waste Water

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

Protected Area: If a water body is one or more of the following: Drinking Water Protected Area; Bathing Water; Shellfish Area; Nutrient Sensitive Area or; a Natura 2000 site with a water dependent qualifying interest with a water quality and/or quantity conservation objective, then it has been highlighted as a protected area in this table.

Appendix 4 Drinking water supplies in the catchment

Scheme Code	Scheme Name	Water Body	Water Body Code	Objective met? Yes /No	Reason why not met
2800PRI2165	Brittas GWS	Templemore	IE_SE_G_131	Yes	N/A
2800PUB1016	Borrisoleigh PWS	Templemore	IE_SE_G_131	Yes	N/A
2800PUB1011	Horse & Jockey PWS	Templemore	IE_SE_G_131	Yes	N/A
3100PUB1081	Portlaw	Waterford	IE_SE_G_149	Yes	N/A
	Portlaw	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1079	Monadiha	Comeragh	IE_SE_G_154	Yes	N/A
2900PUB0105	Burncourt Augmentation	Clonmel	IE_SE_G_040	Yes	N/A
	Burncourt Regional	SUIR_140	IE_SE_16S021930	Yes	N/A
2900PUB0104	Ballinvir PWS	Mullinavat	IE_SE_G_155	Yes	N/A
1500PUB1017	Silversprings WTP	Clonmel	IE_SE_G_040	Yes	N/A
0500PUB1502	Glenduff	Comeragh	IE_SE_G_154	No data	N/A
1500PRI3089	Windgap GWS	Mullinavat	IE_SE_G_155	No data	N/A
1500PUB1020	South Kilkenny Environs WS	Carrick-on-Suir	IE_SE_G_030	Yes	N/A
1500PUB1013	Piltown / Fiddown Water Supply Scheme	Carrick-on-Suir	IE_SE_G_030	Yes	N/A
	Piltown / Fiddown Water Supply Scheme	Mullinavat	IE_SE_G_155	Yes	N/A
	Piltown / Fiddown Water Supply Scheme	Mullinavat	IE_SE_G_155	Yes	N/A
	Piltown / Fiddown Water Supply Scheme	Mullinavat	IE_SE_G_155	Yes	N/A
1900PRI3459	Ballyduff	Knockaskallen	IE_SE_G_087	Yes	N/A
1900PUB1003	Anglesboro PUB DWS	Knockaskallen	IE_SE_G_087	Yes	N/A
1900PUB1010	Ballylanders PUB DWS	Knockaskallen	IE_SE_G_087	Yes	N/A
1900PUB1028	Galbally PUB DWS	Bansha	IE_SE_G_016	Yes	N/A
2800PRI2126	Ash Hill GWS	Tipperary	IE_SE_G_145	Yes	N/A
2800PUB1027	Templemore PWS	Templemore	IE_SE_G_131	Yes	N/A
2900PUB1008	Carrick-on-Suir [Crottys Lake]	Carrick-on-Suir	IE_SE_G_030	No data	N/A
2900PUB0110	Cloran Regional	Mullinavat	IE_SE_G_155	Yes	N/A
	Cloran Regional	ANNER_040	IE_SE_16A020800	Yes	N/A
2800PUB1023	Bouladuff PWS	Templemore	IE_SE_G_131	Yes	N/A
2800PUB1012	Thurles PWS	Templemore	IE_SE_G_131	Yes	N/A
	Thurles PWS	Thurles	IE_SE_G_158	Yes	N/A
	Thurles PWS	Templemore	IE_SE_G_131	Yes	N/A
2900PUB0123	TIPPERARY UDC PWS	Knockaskallen	IE_SE_G_087	Yes	N/A
	TIPPERARY UDC PWS	Templemore	IE_SE_G_131	Yes	N/A
2900PUB0124	Tullohea PWS	Mullinavat	IE_SE_G_155	Yes	N/A
2900PUB0143	Hollyford PWS	Templemore	IE_SE_G_131	Yes	N/A
2900PUB0146	Ironmills PWS	Templemore	IE_SE_G_131	Yes	N/A
2900PUB0147	Kilcash PWS	Carrick-on-Suir	IE_SE_G_030	Yes	N/A
2800PUB1028	Thurles PWS	Templemore	IE_SE_G_131	Yes	N/A

Scheme Code	Scheme Name	Water Body	Water Body Code	Objective met? Yes /No	Reason why not met
2900PRI0226	Kilcoran GWS	Cahir	IE_SE_G_024	Yes	N/A
2900PUB0149	Mullinbawn PWS	Clonmel	IE_SE_G_040	Yes	N/A
2900PUB0152	Templetney Borehole	Clonmel	IE_SE_G_040	Yes	N/A
2900PUB0151	Monroe PWS	Clonmel	IE_SE_G_040	Yes	N/A
	Monroe PWS	Clonmel	IE_SE_G_040	Yes	N/A
2900PUB0153	Springmount	Templemore	IE_SE_G_131	Yes	N/A
2800PRI2108	Tonagha / Drish / Galboola GWS	Templemore	IE_SE_G_131	Yes	N/A
2800PRI2078	Barnane GWS	Templemore	IE_SE_G_131	Yes	N/A
2800PRI2045	Castleliney A GWS	Templemore	IE_SE_G_131	Yes	N/A
2800PUB1020	Two-Mile-Borris PWS	Templemore	IE_SE_G_131	Yes	N/A
2800PUB1022	Upperchurch PWS	Templemore	IE_SE_G_131	Yes	N/A
2800PRI2030	Moyne GWS	Templemore	IE_SE_G_131	Yes	N/A
	Moyne GWS	Templemore	IE_SE_G_131	Yes	N/A
2800PRI2024	Garrynamona/ Cormackstown GWS	Templemore	IE_SE_G_131	Yes	N/A
	Garrynamona/ Cormackstown GWS	Templemore	IE_SE_G_131	Yes	N/A
	Garrynamona/ Cormackstown GWS	Templemore	IE_SE_G_131	Yes	N/A
	Garrynamona/ Cormackstown GWS	Templemore	IE_SE_G_131	Yes	N/A
2800PRI2250	Graigue / Pouldine GWS	Tipperary	IE_SE_G_145	Yes	N/A
	Graigue / Pouldine GWS	Tipperary	IE_SE_G_145	Yes	N/A
2800PRI2031	Drumbane, Upperchurch GWS	Templemore	IE_SE_G_131	No data	N/A
2800PRI2109	Newhill GWS	Thurles	IE_SE_G_158	Yes	N/A
	Newhill GWS	Thurles	IE_SE_G_158	Yes	N/A
2800PRI2190	Rahealty GWS	Thurles	IE_SE_G_158	Yes	N/A
	Rahealty GWS	Templemore	IE_SE_G_131	Yes	N/A
2800PUB1029	Thurles PWS	Thurles	IE_SE_G_158	Yes	N/A
2800PRI2518	Clobanna GWS	Templemore	IE_SE_G_131	Yes	N/A
2800PUB1010	Templemore PWS	Templemore	IE_SE_G_131	Yes	N/A
2800PUB1014	Littleton PWS	Templemore	IE_SE_G_131	Yes	N/A
2900PUB0101	Ahenny PWS	Mullinavat	IE_SE_G_155	Yes	N/A
2800PUB1018	Holycross PWS	Templemore	IE_SE_G_131	Yes	N/A
2800PUB1013	Templeuohy PWS	Templemore	IE_SE_G_131	Yes	N/A
	Templeuohy PWS	Templemore	IE_SE_G_131	Yes	N/A
3100PUB1044	Feddans	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1047	Garravoone	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1142	Gort an Chlochair	Clonmel	IE_SE_G_040	Yes	N/A
3100PUB1030	Clonea OSullivan	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1120	Glennagad	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1013	Ballyknock	Comeragh	IE_SE_G_154	Yes	N/A

Scheme Code	Scheme Name	Water Body	Water Body Code	Objective met? Yes /No	Reason why not met
3100PUB1009	Ballyduff (Kilmeaden)	Waterford	IE_SE_G_149	Yes	N/A
3100PUB1020	Ballyshunnock	Waterford	IE_SE_G_149	Yes	N/A
3100PUB1107	Crehanagh	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1037	Derrinular	Carrick-on-Suir	IE_SE_G_030	Yes	N/A
3100PUB1014	Ballymacarbry (Ballyrohan)	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1031	Clonea Power	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1028	Castlereagh	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1065	Kilmanahan	Carrick-on-Suir	IE_SE_G_030	Yes	N/A
3100PUB1070	Knockalisheen	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1154	Bishopstown	Comeragh	IE_SE_G_154	No data	N/A
3100PUB1025	Carrigeen	Waterford	IE_SE_G_149	Yes	N/A
3100PUB1103	Joanstown	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1153	Ballyneale	Comeragh	IE_SE_G_154	No data	N/A
3100PRI3041	Monminane GWS	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1115	Lyreanearla	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1101	Whitestown	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1092	Smoorbeg	Waterford	IE_SE_G_149	Yes	N/A
3100PRI3015	Ballydurn Group Scheme	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1080	Nire	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1082	Poulavanogue	Comeragh	IE_SE_G_154	Yes	N/A
3100PUB1083	Rathgormuck	Comeragh	IE_SE_G_154	Yes	N/A
3100PRI3047	Ross/Kildermody	Waterford	IE_SE_G_149	No data	N/A
3100PUB1086	Russelstown	Carrick-on-Suir	IE_SE_G_030	Yes	N/A
3100PUB1050	Scrothea	Comeragh	IE_SE_G_154	Yes	N/A
2900PUB0107	Carrick-on-Suir [Crottys Lake]	Crottys lake	IE_SE_16_314	Yes	N/A
3100PUB1110	East Waterford Water Supply Scheme	Ballyshunnock lake	IE_SE_16_463	Yes	N/A
	East Waterford Water Supply Scheme	Ballyshunnock lake	IE_SE_16_463	Yes	N/A
	East Waterford Water Supply Scheme	Ballyshunnock lake	IE_SE_16_463	Yes	N/A
	East Waterford Water Supply Scheme	CLODIAGH (PORTLAW)_050	IE_SE_16C030750	Yes	N/A
1500PUB1012	Mooncoin Regional Water Supply Scheme	BLACKWATER (KILMACOW)_010	IE_SE_16B020080	Yes	N/A
	Mooncoin Regional Water Supply Scheme	POLLANASSA_030	IE_SE_16P020200	Yes	N/A
2900PUB0113	Dundrum Regional	MULTEEN (EAST)_010	IE_SE_16M080100	Yes	N/A
2900PUB0205	Graigue PWS	SUIR_210	IE_SE_16S022750	Yes	N/A
2900PUB0108	Carrick-on-Suir [Lingaun River]	LINGAUN_050	IE_SE_16L010600	Yes	N/A
2900PUB0130	Galtee Regional	AHERLOW_060	IE_SE_16A010700	Yes	N/A
	Galtee Regional	ROSSADREHID STREAM_010	IE_SE_16R060100	Yes	N/A

Scheme Code	Scheme Name	Water Body	Water Body Code	Objective met? Yes /No	Reason why not met
2900PUB0137	Gortnapisha Regional	ANNER_040	IE_SE_16A020800	Yes	N/A
2900PUB0102	Ardfinnan Regional	GLENGALLA_010	IE_SE_16G050100	Yes	N/A
	Ardfinnan Regional	GLENGALLA_010	IE_SE_16G050100	Yes	N/A

Appendix 5 Prioritisation of water bodies with Natura 2000 site qualifying interests

Note that additional water dependent species have been added that are not qualifying interests within the SACs (i.e. Arctic char (Salvelinus alpinus) has been added to Comeragh Mountains SAC). River water bodies that are designated as salmonid rivers (under Salmonid Regulations (S.I. 293 / 1988)) but that are not located within SACs have also been listed.

SAC Name	Relevant Qualifying interests	Target status	Water body type	Water bodies	Status (risk)	Prioritise?	Code	Survey data?
Anglesey Road SAC 002125	none							
Comeragh Mountains SAC 001952	3110	At least Good	Lake	Coumshingaun Lough	Unassigned (NAR)	No	IE_SE_16_466	No
	1029 (19 of 27 catchments of S.I. 296 2009)	Good	River	Clodiagh (Portlaw)_010	Moderate (AT RISK)	Yes	IE_SE_16C030100	Yes
			River	Clodiagh (Portlaw)_020	Good (NAR)	No	IE_SE_16C030200	Yes
			River	Clodiagh (Portlaw)_030	Good (NAR)	No	IE_SE_16C030300	Yes
	Artic char (possibly extinct)	Good	Lake	Coumshingaun Lough	Unassigned (NAR)	No	IE_SE_16_466	No
			Lake	Crottys	Unassigned (NAR)	No	IE_SE_16_314	No
Galtee Mountains SAC 000646	none							
Hugginstown Fen SAC 000404	7230	Good GW level	Groundwater	Mullinavat GWB	Good (NAR)	No	IE_SE_G_155	No
Kilduff, Devilsbit Mountain SAC 000934	none							
Lower River Suir SAC 002137	1029 (19 of 27 catchments of S.I. 296 2009)	Good	River	Clodiagh (Portlaw)_040	Good (NAR)	No	IE_SE_16C030400	Yes
			River	Clodiagh (Portlaw)_050	Good (NAR)	No	IE_SE_16C030750	Yes
	1092	At least Moderate	River	Clodiagh (Tipperary)_030	Good (NAR)	No	IE_SE_16C020200	No
			River	Clodiagh (Tipperary)_040	Good (NAR)	No	IE_SE_16C020600	No
			River	Owenbeg (Tipperary)_010	Good (NAR)	No	IE_SE_16O020700	No
			River	Multeen (East)_020	Good (R)	No	IE_SE_16M080300	No

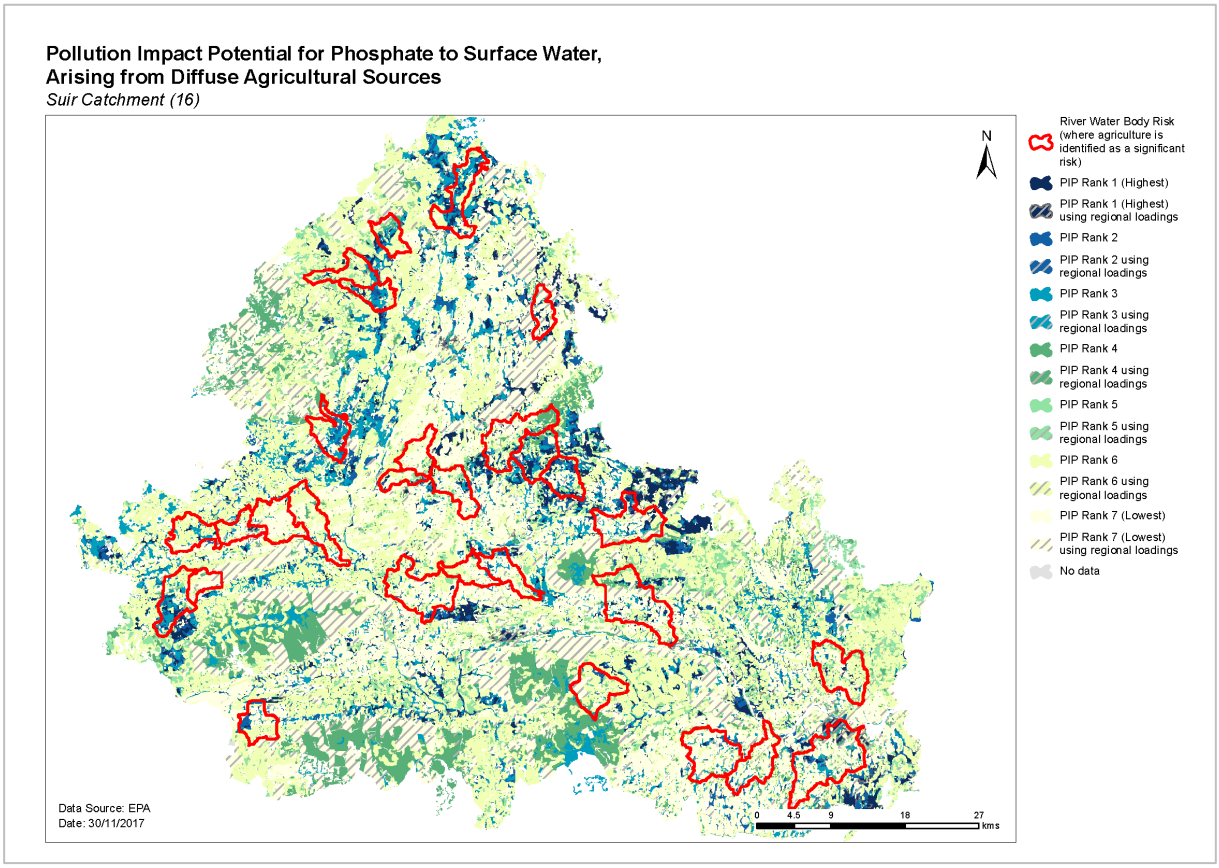
SAC Name	Relevant Qualifying interests	Target status	Water body type	Water bodies	Status (risk)	Prioritise?	Code	Survey data?
Lower River Suir SAC 002137	1092	At least Moderate	River	Multeen (East)_030	Moderate (AT RISK)	No	IE_SE_16M080400	No
			River	Multeen (East)_040	Good (NAR)	No	IE_SE_16M080500	No
			River	Multeen_010	Good (NAR)	No	IE_SE_16M020600	No
			River	Multeen_020	Good (NAR)	No	IE_SE_16M020780	No
			River	Multeen_030	Good (NAR)	No	IE_SE_16M020900	No
			River	Multeen_040	Good (NAR)	No	IE_SE_16M021000	No
			River	Multeen_050	Good (NAR)	No	IE_SE_16M021100	No
			River	Pil 16_010	Unassigned (R)	No	IE_SE_16P010910	No
			River	Ullid 16_010	Unassigned (R)	No	IE_SE_16U010850	No
			River	Whelan's Bridge Stream_010	Unassigned (AT RISK)	Yes	IE_SE_16W010400	No
			River	Darrigal_010	Unassigned (R)	No	IE_SE_16D290570	No
			River	Flemingstown 16_010	Unassigned (R)	No	IE_SE_16F170700	No
			River	Halfway House Stream_010	Moderate (AT RISK)	No	IE_SE_16H020300	No
			River	Faithlegg_010	Unassigned (R)	No	IE_SE_16F150440	No
			River	Clodiagh (Portlaw)_040	Good (NAR)	No	IE_SE_16C030400	No
			River	Clodiagh (Portlaw)_050	Good (NAR)	No	IE_SE_16C030750	No
			River	Lingaun_020	Moderate (AT RISK)	No	IE_SE_16L010200	No
			River	Lingaun_030	Good (NAR)	No	IE_SE_16L010300	No
			River	Lingaun_040	Good (NAR)	No	IE_SE_16L010400	No
			River	Lingaun_050	Good (NAR)	No	IE_SE_16L010600	No
			River	Anner_030	Moderate (AT RISK)	No	IE_SE_16A020600	No
			River	Anner_040	Good (R)	No	IE_SE_16A020800	No
			River	Anner_050	Good (NAR)	No	IE_SE_16A020900	No
			River	Anner_060	Good (NAR)	No	IE_SE_16A021100	No
			River	Clashawley_030	Good (NAR)	No	IE_SE_16C010500	No
			River	Clashawley_040	Good (NAR)	No	IE_SE_16C010600	No
			River	Glasha (Waterford)_010	High (NAR - HES obj)	No	IE_SE_16G010400	No
			River	Glenary_010	Unassigned (NAR)	No	IE_SE_16G020200	No
			River	Nier_020	Good (AT RISK - HES obj)	No	IE_SE_16N010100	No

SAC Name	Relevant Qualifying interests	Target status	Water body type	Water bodies	Status (risk)	Prioritise?	Code	Survey data?
Lower River Suir SAC 002137	1092	At least Moderate	River	Nier_030	Good (NAR)	No	IE_SE_16N010400	No
			River	Duag_010	Moderate (AT RISK)	No	IE_SE_16D030100	No
			River	Duag_020	Good (NAR)	No	IE_SE_16D030400	No
			River	Duag_030	Good (NAR)	No	IE_SE_16D031100	No
			River	Tar_020	Good (NAR)	No	IE_SE_16T010300	No
			River	Tar_030	Good (NAR)	No	IE_SE_16T010600	No
			River	Aherlow_040	Moderate (R)	No	IE_SE_16A010500	No
			River	Aherlow_050	Unassigned (R)	No	IE_SE_16A010600	No
			River	Aherlow_060	Good (NAR)	No	IE_SE_16A010700	No
			River	Aherlow_070	Good (NAR)	No	IE_SE_16A010800	No
			River	Aherlow_080	Moderate (AT RISK)	No	IE_SE_16A010900	No
			River	Suir_080	Good (NAR)	No	IE_SE_16S021100	No
			River	Suir_090	Good (NAR)	No	IE_SE_16S021300	No
			River	Suir_100	Good (NAR)	No	IE_SE_16S021400	No
			River	Suir_110	Good (NAR)	No	IE_SE_16S021500	No
			River	Suir_120	Good (NAR)	No	IE_SE_16S021600	No
			River	Suir_130	Good (NAR)	No	IE_SE_16S021700	No
			River	Suir_140	Good (NAR)	No	IE_SE_16S021930	No
			River	Suir_150	Good (NAR)	No	IE_SE_16S022000	No
			River	Suir_160	Good (NAR)	No	IE_SE_16S022200	No
			River	Suir_170	Good (NAR)	No	IE_SE_16S022300	No
			River	Suir_180	Good (NAR)	No	IE_SE_16S022400	No
			River	Suir_190	Good (NAR)	No	IE_SE_16S022600	No
			River	Suir_200	Good (NAR)	No	IE_SE_16S022700	No
			River	Suir_210	Good (NAR)	No	IE_SE_16S022750	No
			River	Suir_220	Good (NAR)	No	IE_SE_16S022850	No
	1106	Good	River	Aherlow_040	Moderate (R)	Yes	IE_SE_16A010500	Yes
			River	Aherlow_050	Unassigned (R)	Yes	IE_SE_16A010600	Yes
			River	Aherlow_060	Good (NAR)	No	IE_SE_16A010700	Yes
			River	Aherlow_070	Good (NAR)	No	IE_SE_16A010800	Yes
			River	Aherlow_080	Moderate (AT RISK)	Yes	IE_SE_16A010900	Yes
			River	Suir_130	Good (NAR)	No	IE_SE_16S021700	Yes

SAC Name	Relevant Qualifying interests	Target status	Water body type	Water bodies	Status (risk)	Prioritise?	Code	Survey data?
Moanour Mountain SAC 002257	none							
Nier Valley Woodlands SAC 000668	none							
Salmonid rivers (outside SACs)	1106 (not listed)	Good	River	Aherlow_010	Good (NAR)	No	IE_SE_16A010080	Yes
			River	Aherlow_020	Moderate (AT RISK)	Yes	IE_SE_16A010200	Yes
			River	Aherlow_030	Moderate (AT RISK)	Yes	IE_SE_16A010300	Yes

Appendix 6 Pollution Impact Potential (PIP) Map for Phosphorus

For areas where agriculture is deemed as the significant pressure, areas of high risk to surface water can be targeted. The map below shows relative risk of loss of phosphorus to surface water. The risk of phosphorus losses is strongly correlated on whether the land is poorly draining or free draining and the loadings applied i.e. significant loadings applied on poorly draining areas result in a high potential risk to surface water. However, this figure does not imply that actual losses from these areas are occurring but is a useful tool for informing where resources should be focused (i.e. by allowing high risk areas to be identified and prioritised for further investigation). PIP maps are available online at a scale of 1:20,000 and can be accessed by public bodies via the EDEN process.



Appendix 7 Local Catchment Assessment Categories

Category	Assessment & Measures Evaluation Details
IA1	Further information provision (e.g. from IFI, LAs, EPA)
IA2	Point source desk-based assessment
IA3	Assessment of unassigned status water bodies, requiring field visit(s)
IA4	Regulated point sources, requiring field visit/s
IA5	Stream (catchment) walk to evaluate multiple sources in a defined (1 km) river stretch (used as the basis for estimating resource requirements)
IA6	Stream (catchment) walk in urban areas
IA7	Stream (catchment) walk along >1 km river stretches
IA8	Stream (catchment) walk along high ecological status (HES) objective rivers
IA9	Lakes assessment, requiring field visits
IA10	Groundwater assessments, requiring field visits