Urban Waste Water Treatment in 2015

epa
Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

The work of the EPA can be divided into three main areas:

Regulation: *We implement effective regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.*

Knowledge: *We provide high quality, targeted and timely environmental data, information and assessment to inform decision making at all levels.*

Advocacy: *We work with others to advocate for a clean, productive and well protected environment and for sustainable environmental behaviour.*

Our Responsibilities

Licensing

We regulate the following activities so that they do not endanger human health or harm the environment:

- waste facilities *(e.g. landfills, incinerators, waste transfer stations)*;
- large scale industrial activities (*e.g. pharmaceutical, cement manufacturing, power plants)*;
- intensive agriculture *(e.g. pigs, poultry)*;
- the contained use and controlled release of Genetically Modified Organisms *(GMOs)*;
- sources of ionising radiation *(e.g. x-ray and radiotherapy equipment, industrial sources)*;
- large petrol storage facilities;
- waste water discharges;
- dumping at sea activities.

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- Conducting an annual programme of audits and inspections of EPA licensed facilities.
- Overseeing local authorities' environmental protection responsibilities.
- Supervising the supply of drinking water by public water suppliers.
- Working with local authorities and other agencies to tackle environmental crime by co-ordinating a national enforcement network, targeting offenders and overseeing remediation.
- Enforcing Regulations such as Waste Electrical and Electronic Equipment (WEEE), Restriction of Hazardous Substances (RoHS) and substances that deplete the ozone layer.
- Prosecuting those who flout environmental law and damage the environment.

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- National coordination and oversight of the Water Framework Directive.
- Monitoring and reporting on Bathing Water Quality.

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- Independent reporting to inform decision making by national and local government *(e.g. periodic reporting on the State of Ireland's Environment and Indicator Reports)*.

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- Preparing Ireland's greenhouse gas inventories and projections.
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- Funding environmental research to identify pressures, inform policy and provide solutions in the areas of climate, water and sustainability.

Strategic Environmental Assessment

- Assessing the impact of proposed plans and programmes on the Irish environment *(e.g. major development plans)*.

Radiological Protection

- Monitoring radiation levels, assessing exposure of people in Ireland to ionising radiation.
- Assisting in developing national plans for emergencies arising from nuclear accidents.
- Monitoring developments abroad relating to nuclear installations and radiological safety.
- Providing, or overseeing the provision of, specialist radiation protection services.

Guidance, Accessible Information and Education

- Providing advice and guidance to industry and the public on environmental and radiological protection topics.
- Providing timely and easily accessible environmental information to encourage public participation in environmental decision-making *(e.g. My Local Environment, Radon Maps)*.
- Advising Government on matters relating to radiological safety and emergency response.
- Developing a National Hazardous Waste Management Plan to prevent and manage hazardous waste.

Awareness Raising and Behavioural Change

- Generating greater environmental awareness and influencing positive behavioural change by supporting businesses, communities and householders to become more resource efficient.
- Promoting radon testing in homes and workplaces and encouraging remediation where necessary.

Management and structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiological Protection
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.

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Environmental Protection Agency

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Key findings

Infrastructure

Effective waste water treatment is vital for the health of our environment, economy and people

- 10 of our 171 large urban areas did not meet national and EU requirements to provide secondary treatment, which is a biological treatment process that significantly reduces the risk of pollution by organic matter.
- 7 towns and cities did not meet the additional requirement to provide treatment to reduce nutrients (nitrogen and/or phosphorus) and created a risk to sensitive areas by discharging effluent that exceeded nutrient quality standards.
- Untreated waste water from 43 areas was routinely discharged into our rivers, estuaries and coastal waters.
- There has been an average slippage of almost 2 years in the planned dates for provision of treatment at 22 of the areas where the discharge of untreated waste water was previously expected to cease by 2017.
- 13 collection networks fail to meet EU requirements, resulting in the loss of waste water into the environment.
- The annual rate of capital investment in infrastructure since 2014 is approximately 40% lower than annual investment levels during the previous decade.
- Works completed in 2015 as a result of EPA requirements include the provision of new treatment plants at Cavan, Ardmore, Dunmore East, Clifden and Hacketstown.

Effluent Quality

Waste water discharged from some of our towns and cities is not sufficiently treated

- 142 of our 171 large urban areas complied with all the applicable effluent quality standards in the Urban Waste Water Treatment Directive.
- 51% of the national waste water load (by population equivalent) complied with the basic quality standards and just 25% of the national waste water load discharged into nutrient sensitive areas complied with the additional nutrient quality standards. This compares with EU compliance rates of 92% and 88% respectively.

Impacts and risks

Urban waste water continues to be one of the principal pressures on the quality of our waters

- Waste water discharges contributed to poor water quality at 6 of our 137 identified bathing waters.
- 45 waste water works were linked with river pollution, down from 56 in 2009.
- Discharges from 16 areas require improvement works to protect endangered freshwater pearl mussels.

Reporting of environmental information

- 87% of the 212 recurring incidents reported to the EPA in 2015 relate to breaches of effluent quality standards.
- The root cause of 21% of incidents was attributed to the operation and management of treatment plants.
- 29% of 1,157 storm water overflows reported to the EPA in 2015 complied with the national standards. The remaining 71% either lacked a compliance assessment due to information shortfalls or were non-compliant.

Recommendations

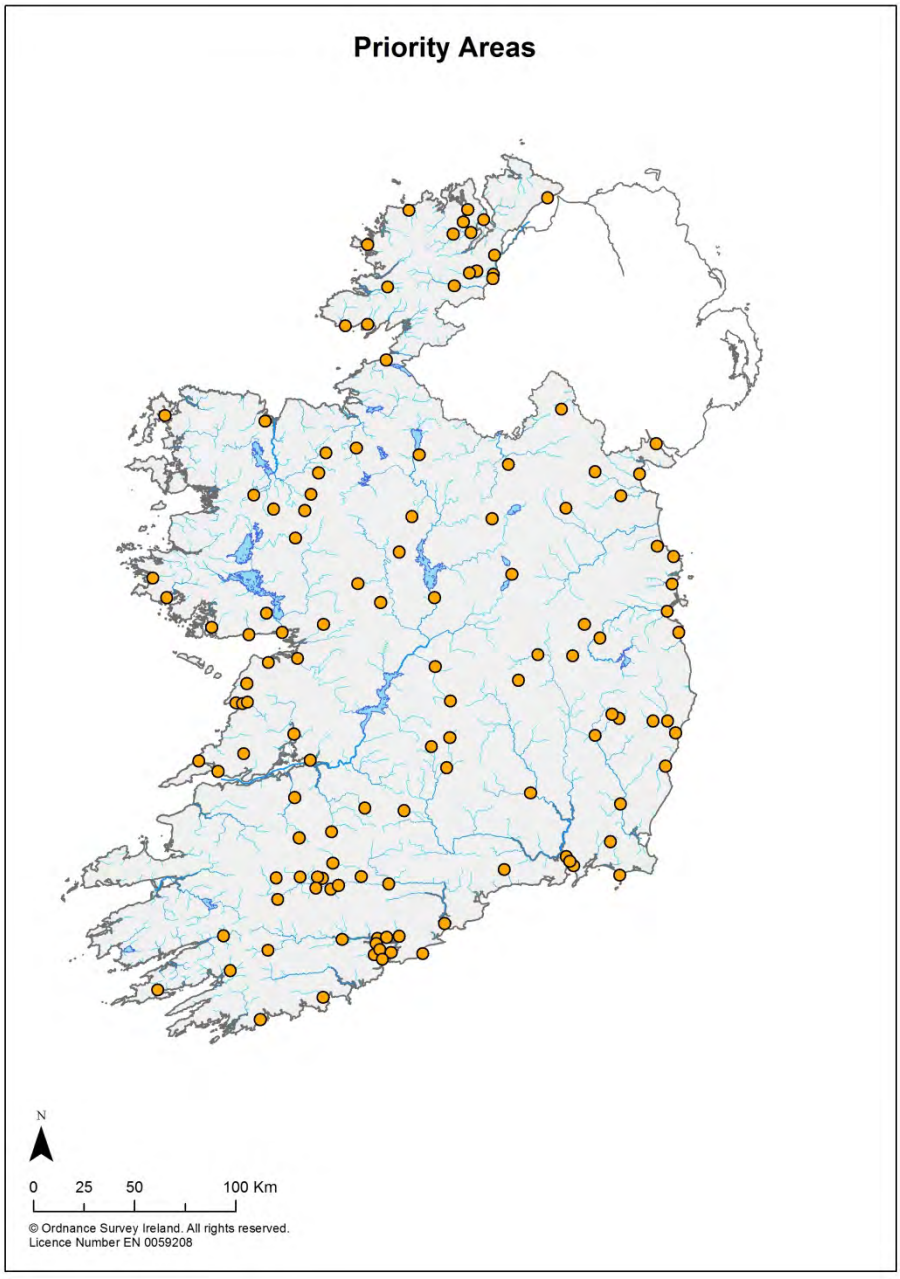
- **Increased capital investment and improved efficiencies in the delivery of projects are essential to provide the outstanding infrastructure required to collect and treat our waste water.**
- **Consistency and better practice in the operation and management of waste water assets are needed to optimise performance and drive improvements in effluent quality.**

Waste water priorities

The priorities to be addressed to protect our environment from the adverse effects of waste water discharges are:

- Ensure that waste water from our urban areas is collected and treated to a satisfactory standard, as set out in the Urban Waste Water Treatment Directive.
- Eliminate discharges of untreated waste water to our rivers, estuaries and coastal waters.
- Prevent pollution of rivers and bathing waters by inadequately treated waste water and restore affected waters to good quality.
- Protect freshwater pearl mussels and shellfish at risk from urban waste water.

124 urban areas where improvements are required to resolve these priorities are shown on the map below and in the table on the following page.



Urban areas where improvements are required to resolve priority issues

Co. Carlow (3)
Hacketstown
Tiknock
Tullow

Co. Cavan (2)
Cavan
Mullagh

Co. Clare (10)
Ballyvaughan
Clarecastle
Ennistymon
Kilkee
Kilmihil
Kilrush
Lahinch
Liscannor
Lisdoonvarna
Shannon Town

Co. Cork (28)
Ballincollig
Ballyclough
Ballycotton
Boherbue
Buttevant
Carrigtwohill
Castletownbere
Castletownroche
Castletownshend
Cecilstown
Charleville
Cobh
Cork City
Dromahane
Fermoy
Inchigeelagh
Kanturk
Kealkill
Lombardstown
Mallow
Midleton
Millstreet
Passage-Monkstown
Ringaskiddy-Crosshaven-Carrigaline
Ringaskiddy village
Timoleague
Whitegate-Agada
Youghal

Co. Donegal (18)
Ballybofey-Stranorlar
Bundoran
Burtonport
Convoy
Coolatee Housing Scheme
Falcarragh
Glenties
Kerrykeel
Kilcar
Killybegs
Kilmacrennan
Lifford
Milford
Moville
Ramelton
Raphoe
Rathmullan
St Johnston

Co. Dublin (4)
Ringsend
Shanganagh
Balbriggan-Skerries
Rush

Co. Galway (10)
Ahascragh
Athenry
Carraroe
Clifden
Galway City
Kinvara
Mountbellew
Moycullen
Roundstone
Spiddal

Co. Kerry (1)
Kilgarvan

Co. Kildare (3)
Coill Dubh
Kildare Town
Osberstown

Co. Kilkenny (1)
Stonyford

Co. Laois (2)
Portarlington
Portlaoise

Co. Leitrim (1)
Drumshanbo

Co. Limerick (3)
Dromcollagher
Hospital
Rathkeale

Co. Longford (1)
Granard

Co. Louth (3)
Ardee
Blackrock
Omeath

Co. Mayo (8)
Balla
Ballindine
Belmullet
Castlebar
Charlestown
Kilkelly
Killala
Knock

Co. Meath (1)
Stamullen

Co. Monaghan (2)
Carrickmacross
Monaghan

Co. Offaly (1)
Birr

Co. Roscommon (2)
Roscommon
Strokestown

Co. Sligo (2)
Ballymote
Tubbercurry

Co. Tipperary (5)
Borrisoleigh
Templemore
Thurles
Tipperary Town
Roscrea

Co. Waterford (1)
Kilmacthomas

Co. Westmeath (2)
Athlone
Mullingar

Co. Wexford (7)
Arthurstown
Ballyhack
Courtown-Gorey
Duncannon
Enniscorthy
Kilmore Quay
Taghmon

Co. Wicklow (3)
Arklow
Aughrim
Avoca

1 Introduction

Urban waste water must be treated prior to being released back into the environment in order to remove contaminants that could otherwise pose a risk to the environment or public health. This report provides an overview of the treatment of urban waste water in 2015 and highlights where resources should be targeted to improve waste water discharges and protect our environment.

The European Union's Urban Waste Water Treatment Directive and Ireland's Urban Waste Water Treatment Regulations set out requirements for the collection, treatment and discharge of urban waste water, with the objective of protecting the environment from the adverse effects of waste water discharges. Chapter 2 of this report outlines compliance with key requirements of this legislation and includes the EPA's assessment of approximately 23,000 monitoring results against the effluent quality standards set in the Directive.

A further measure taken in Ireland to prevent and reduce pollution by urban waste water discharges was the introduction in 2007 of an authorisation process for such discharges. The **Environmental Protection Agency (EPA)** is the environmental regulator responsible for the authorisation of urban waste water discharges. A licence is required for discharges from areas with a population equivalent (p.e.) of 500 or more and a certificate of authorisation is required for discharges from areas with a population equivalent of less than 500[1]. Priorities targeted through the EPA's enforcement of waste water discharge authorisations are addressed in Chapters 3 and 4 of this report.

Irish Water / Uisce Éireann is the national water utility responsible for the provision and development of water services, including the collection, treatment and discharge of urban waste water. Irish Water has an obligation to comply with the requirements of all EPA waste water discharge authorisations.

Urban waste water continues to be one of the principle pressures on water quality in Ireland. Considerable progress has been made since 2000 in improving treatment across the country however some areas have lagged behind and are still discharging waste water that has not been sufficiently treated. The average rate of capital investment between 2014 and 2015 was €166 million per annum, which is approximately 40% lower than the average annual investment between 2000 and 2011. This lower rate of investment is not sufficient to address the outstanding infrastructure deficiencies. Further significant capital investment and improved management of existing infrastructure are necessary to ensure all our waste water is treated to the standards needed to protect human health and the receiving environment, comply with EPA waste water discharge authorisations and meet obligations under national and EU legislation.

[1] Population equivalent (p.e.) is a term used to measure the organic biodegradable load generated in an urban area. It takes into account the load generated by the resident population, the non-resident population (e.g. tourists) and industries. A population equivalent of 1 is defined as the organic biodegradable load having a five-day biochemical oxygen demand of 60g of oxygen per day.

2 Treatment infrastructure and effluent quality

2.1 Treatment infrastructure

The treatment provided for the national urban waste water load generated during 2015 is presented below. Over **94%** of waste water received at least secondary treatment, which is a biological treatment process that significantly reduces the risk of pollution by organic matter.

Waste water treatment provided for the national waste water load in 2015 (by p.e.)[2]

No treatment or preliminary treatment (%)	Primary treatment (%)	Secondary treatment (%)	Secondary treatment & nutrient reduction (%)
4.2	**1.0**	**68.3**	**26.5**

2.2 Effluent quality

2.2.1 Compliance with BOD and COD standards

The Urban Waste Water Treatment Directive requires secondary (biological) treatment to be provided at all urban areas above specified size thresholds, and sets quality standards for effluent reintroduced to the environment from these large urban areas[3]. Discharges from all large areas are obliged to comply with the quality standards set in the Directive for two key water quality indicator parameters, namely biochemical oxygen demand (BOD) and chemical oxygen demand (COD)[4]. Compliance with these requirements is important to ensure waste water from our towns and cities receives effective treatment before it is discharged into the environment.

In 2015, **171** of the 509 urban areas subject to the EPA's waste water discharge licensing programme had a population equivalent above the size thresholds specified in the Directive. The EPA assessed Irish Water's effluent monitoring results from these 171 areas against the Directive's mandatory BOD and COD effluent quality standards and the findings are summarised below.

Compliance with BOD and COD standards in 2015

In 2015 the EU Directive's effluent quality standards for BOD and COD were mandatory at **171** large urban areas. These areas account for 94% of the national waste water load.

Key Findings

143
areas complied with the BOD and COD effluent quality standards

18
areas with secondary treatment failed the effluent quality standards due to inadequate capacity or unsatisfactory plant performance

10
areas did not have secondary treatment throughout 2015 and therefore could not meet the effluent quality standards

[2] This is based on the treatment provided at 509 areas subject to the waste water discharge licensing programme. These are listed in Appendix A. Areas where all discharges have either ceased or have not yet commenced and small areas subject to certificates of authorisation are excluded from this section of the report.
[3] The threshold is 2,000 p.e. for discharges to freshwater and estuaries and 10,000 p.e. for discharges to coastal waters.
[4] The Directive also sets an optional effluent quality standard for total suspended solids (TSS) but as this requirement is not mandatory it is not discussed in this section. TSS is addressed in Appendix A.

74% of areas complied in 2011 → **84%** of areas complied in 2015

The 143 compliant areas account for just **51%** of urban waste water (by population equivalent) subject to the Directive's BOD and COD standards. This is well below the EU compliance rate of 92%[5]. The main factor in Ireland's poor compliance (by p.e.) is the failure to meet the effluent quality standards at Dublin City, which accounts for over 40% of the waste water load from all large urban areas.

2.2.2 Compliance with nutrient standards

Secondary treatment alone (discussed in the previous section) may not offer sufficient protection to receiving waters at risk of eutrophication[6]. In order to provide the extra protection needed for such waters the Directive sets additional limits on the concentration of phosphorus and nitrogen in effluent discharged to sensitive areas from large towns and cities with a population equivalent greater than 10,000. The nutrient quality standards in the Directive were mandatory in 2015 at **34** of the 171 large urban areas outlined in the previous section[7]. The EPA's assessment of Irish Water's effluent monitoring results against the Directive's nutrient quality standards is summarised below.

Compliance with phosphorus and nitrogen effluent quality standards in 2015

34 large urban areas discharging waste water directly into designated sensitive areas were required to meet the EU Directive's effluent quality standards for phosphorus and/or nitrogen

Key Findings

27	**7**
areas complied with the relevant nutrient quality standards	areas failed to comply with the nutrient quality standards due to a lack of treatment to reduce nutrients

Some large cities such as Dublin and Cork continue to fail the nutrient quality standards and consequently just **25%** of the total waste water load (by population equivalent) discharged to sensitive areas from the **34** large towns and cities met all the applicable nutrient quality standards in 2015. This is a slight improvement from 24% in 2014 but is still well below the EU compliance rate of 88%[5].

2.2.3 Overall compliance with effluent quality standards

The Directive specifies 2 separate sets of effluent quality standards.

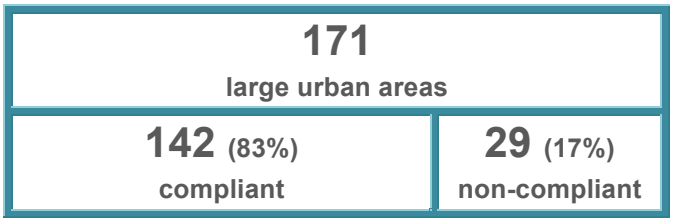
1. Compliance with the basic BOD and COD standards is mandatory at all 171 large urban areas. 143 areas complied with these basic standards (section 2.2.1 above).
2. Compliance with the nutrient quality standards is also mandatory at a subset of 34 of the 171 large urban areas. 7 areas failed these standards (section 2.2.2 above) but 6 of these had

[5] EU compliance rate reported in the Eight Report on the Implementation Status and the Programmes for Implementation of Council Directive 91/271/EEC concerning urban waste water treatment.
[6] Eutrophication means the enrichment of water by nutrients, especially compounds of nitrogen and/or phosphorus, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water.
[7] This section of the report addresses the large urban areas discharging directly to sensitive areas. Urban areas discharging to the catchments of sensitive areas, where they may have an impact on these areas, are not dealt with here but will be covered in subsequent reports using the findings of the national review of sensitive areas carried out in 2016.

already failed the basic BOD and COD standards (i.e. 1 of the 143 areas that complied with the basic set of standards failed to comply with the nutrient standards).

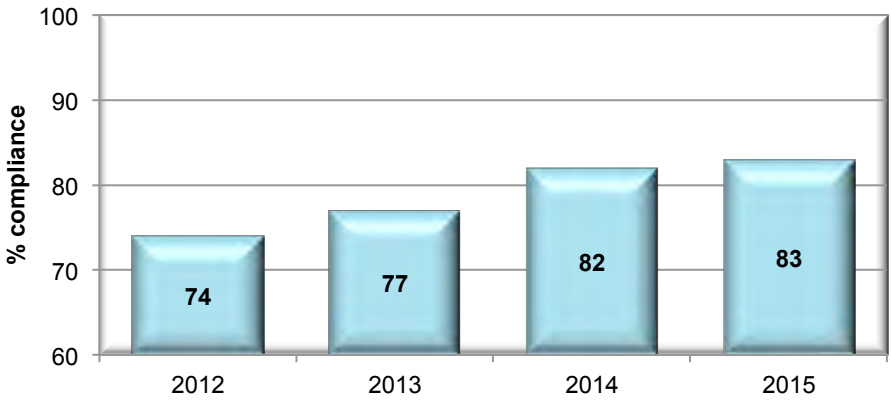
This means that **142** of the 171 large urban areas complied with all of the relevant effluent quality standards (i.e. the basic standards and any applicable nutrient standards) in the Directive. These areas account for 46% of the waste water load from large urban areas (by population equivalent), which is a similar compliance rate to 2014.

Compliance with BOD, COD and nutrient quality standards in 2015



The percentage of areas complying with the applicable effluent quality standards has been gradually improving in recent years but the rate of improvement slowed in 2015, as illustrated below.

Percentage of large urban areas that complied with the effluent quality and sampling standards in the Urban Waste Water Treatment Directive.



2.3 Distance to compliance

The map on page 6 shows the 29 areas that did not comply with the Directive's effluent quality standards in 2015. The estimated timeframe to compliance at 23 of these areas is outlined below. Timeframes to compliance provided by Irish Water for the remaining 6 areas are either post-2021 or were not provided because the best options to deliver compliance have not been finalised. Further information on these areas is included in Appendix B.

Distance to compliance

Compliance with the Urban Waste Water Treatment Directive is key to protecting our environment from the adverse effects of waste water discharges. The European Commission issued a letter of formal notice to Ireland in 2015 (Infringement number 2013/2056) in relation to breaches of the Directive. It is vital that Irish Water completes all works necessary to ensure that waste water is collected and treated in accordance with the requirements of the Directive.

The summary table on page 7 shows that 3 counties (Cork, Donegal and Clare) account for 13 (or 45%) of the areas that are non-compliant with the effluent quality standards.

2.4 Discharges of untreated waste water

Following a review of information provided to the EPA on waste water treatment at over 1,000 urban areas subject to the waste water discharge authorisation programme, including those below the Directive's threshold for mandatory provision of secondary treatment, **43** areas were identified where waste water was still being discharged without treatment at the end of 2015[8]. These are shown on the map on page 8. Over 80% of these areas discharge to estuarine or coastal waters.

Untreated waste water can be contaminated with harmful bacteria and viruses and can pose a threat to human health, aquatic ecosystems and the amenity value of our waters. In response to EPA enforcement activities Irish Water provided a timeframe for the provision of infrastructure to eliminate the discharge of untreated waste water from 40 of the 43 areas. The timeframe is summarised below and addressed in more detail in Appendix E. The EPA is requiring Irish Water to complete its assessment of the options to address the remaining 3 areas and to provide plans setting out how and when these 3 areas will be connected to waste water treatment plants.

Planned provision of treatment at areas discharging untreated waste water

There has been considerable slippage in the planned dates for provision of treatment at many areas, e.g. dates for 22 areas that were previously expected to receive treatment by 2017 have now slipped by an average of 1¾ years.

Three areas previously highlighted by the EPA as discharging untreated waste water were provided with treatment during 2015. These are Ardmore, Dunmore East and Ballylongford.

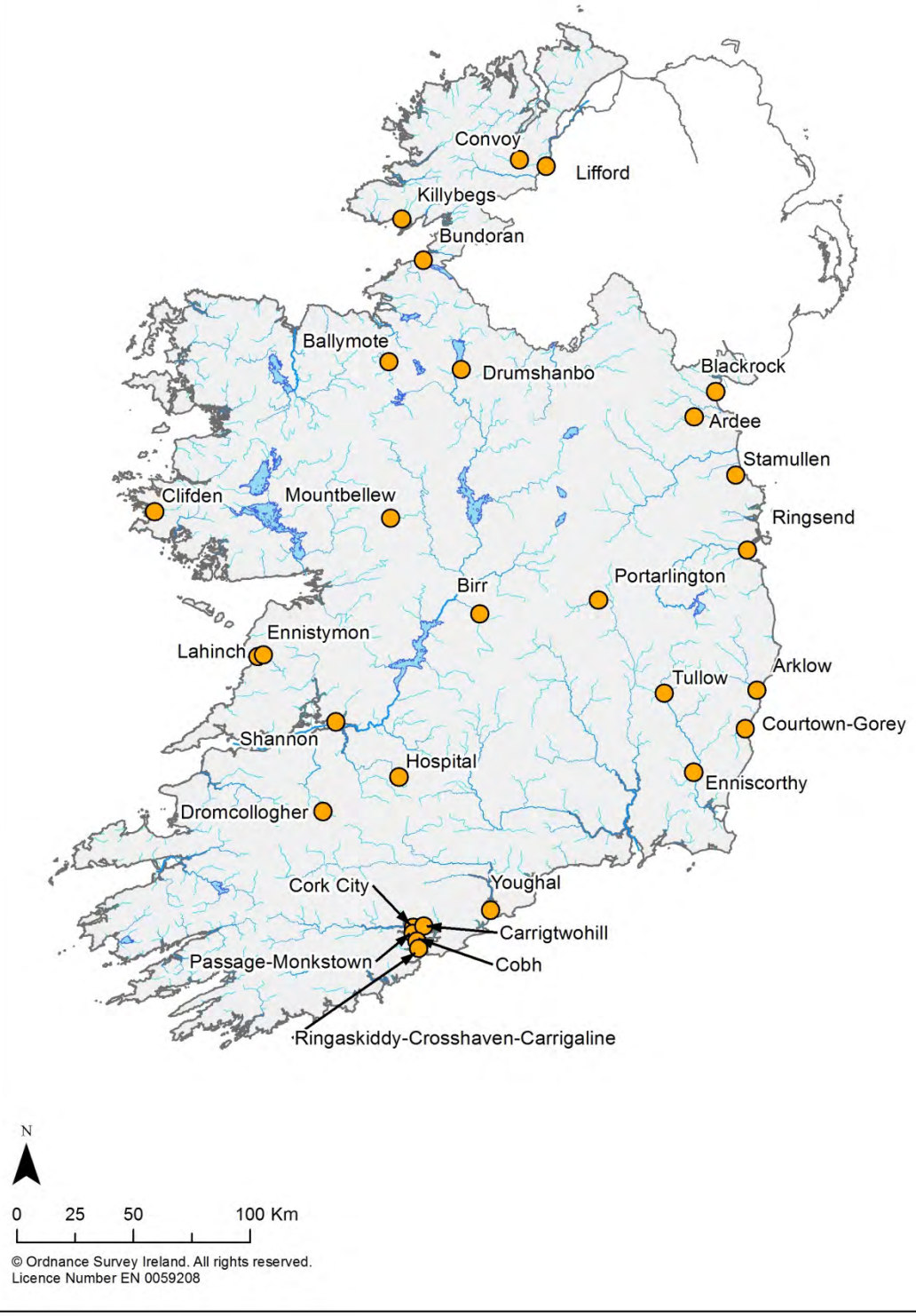
As shown on page 7, the counties of Cork, Donegal, Clare and Galway account for 32 (or 74%) of the areas discharging untreated waste water.

Further Information

- Site specific details of the treatment provided at each of the 509 urban areas subject to the waste water discharge licensing programme and an assessment of effluent quality at all these areas is provided in the county pages in Appendix A.
- Further information on the areas that were non-compliant with the mandatory effluent quality standards is included in Appendix B.
- Compliance with the nutrient quality standards at each of the 34 areas > 10,000 p.e. discharging to sensitive areas is presented in more detail in Appendix C.
- The requirements of the 1991 Urban Waste Water Treatment Directive in respect of treatment provision is summarised in Appendix D.

[8] The EPA is requiring Irish Water to assess treatment at areas with less than secondary treatment. It is possible that additional areas where waste water receives no treatment may be identified upon completion of this project.

Large urban areas that failed to comply with European Union effluent quality standards in 2015



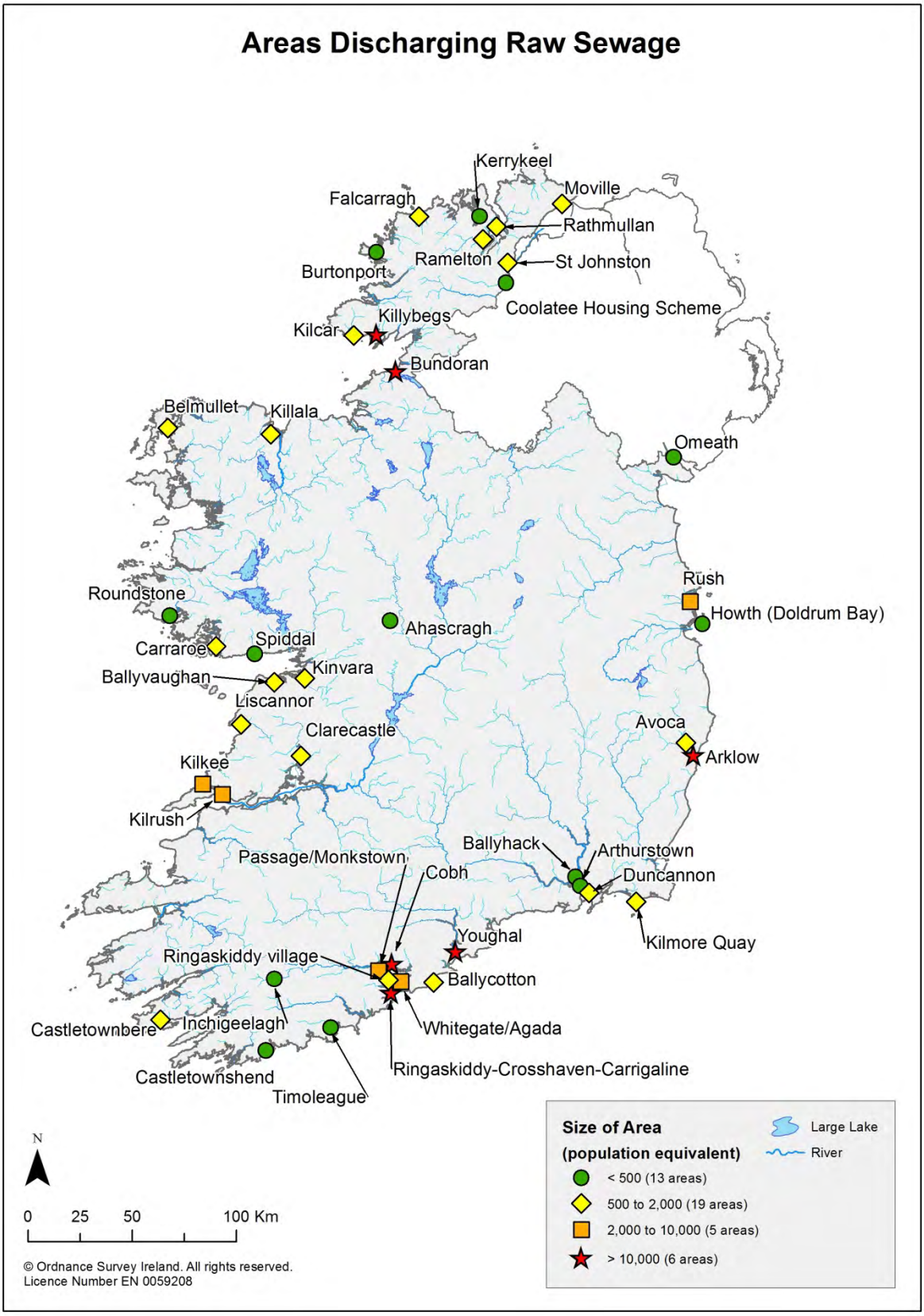
Number of areas per county that (i) were non-compliant with the mandatory effluent quality standards in the Directive and (ii) discharge waste water that receives no treatment or preliminary treatment only

County	Number of large areas non-compliant with the mandatory BOD, COD or nutrient standards in the Directive[9] *Change from 2014*[10]	Number of areas with no treatment or preliminary treatment only[11]
Cork	6 ☺	11
Donegal	4 😐	11
Clare	3 ☹	5
Galway	2 ☺	5
Wexford	2 😐	4
Louth	2 ☹	1
Limerick	2 ☹	0
Dublin	1 😐	2
Wicklow	1 😐	2
Carlow	1 😐	0
Laois	1 ☹	0
Leitrim	1 😐	0
Meath	1 😐	0
Offaly	1 ☹	0
Sligo	1 😐	0
Mayo	0 ☺	2
Total	***29***	***43***

The number of large areas non-compliant with the Directive's mandatory effluent quality standards and the number of areas with no treatment or preliminary treatment only was 0 in counties Cavan, Kerry, Kildare, Kilkenny, Longford, Monaghan, Roscommon, Tipperary, Waterford and Westmeath[12].

[9] Refers to the 171 large urban areas that are above the threshold for the mandatory provision of secondary treatment.
[10] The symbols indicate whether the number of areas that did not meet the effluent quality standards in 2015 was the same as 2014 😐, less than in 2014 ☺, or greater than in 2014 ☹.
[11] This includes all areas subject to the waste water discharge authorisation programme, including certificate of authorisation areas (< 500 p.e.), with no treatment or preliminary treatment only.
[12] This is based on information provided to the EPA by Irish Water.

Areas Discharging Raw Sewage



3 Managing impacts and risks

The effective collection and treatment of waste water is essential to protect the quality of our rivers, lakes and coastal waters. Aquatic ecosystems and human health can come under threat where waste water is not sufficiently treated, where waste water collection systems are inadequate or where there are direct discharges of untreated waste water.

3.1 Impacts on bathing waters

The EPA's Bathing Water Quality in Ireland Report for the Year 2015, which encompasses monitoring results for the period 2012 to 2015, found the following:

6 of the 137 identified bathing waters in Ireland were classified as poor quality in 2015 because they failed to meet minimum mandatory water quality standards. Waste water discharges were a contributing factor to the poor classification of each of these 6 bathing waters.

There was a net decrease of 1 in poor quality bathing waters compared to 2014 with 2 bathing waters newly classified as poor in 2015 and 3 bathing waters which were classified as poor in 2014 being removed from the 'poor' category in 2015. Improvements in bathing water quality at the latter 3 areas - Ardmore beach, Clifden beach and Lilliput (Lough Ennel) - are attributed to improved management of waste water at these areas.

The 6 poor quality bathing waters and the associated waste water works are listed in Appendix F.2. Improvement works planned or on-going to protect these bathing waters from the impacts of waste water discharges include the provision of new waste water treatment plants at Youghal and Duncannon in 2017 and 2019 respectively, the connection of Rush to a waste water treatment plant in 2018 and network improvements at Galway City due for completion by 2020.

Further Information

- The national bathing water information website (splash.epa.ie) provides detailed information on bathing waters, including summaries of the management plans in place to tackle the main pollution risks at the 6 bathing waters that were classified as poor in 2015[13].

3.2 Impacts on rivers

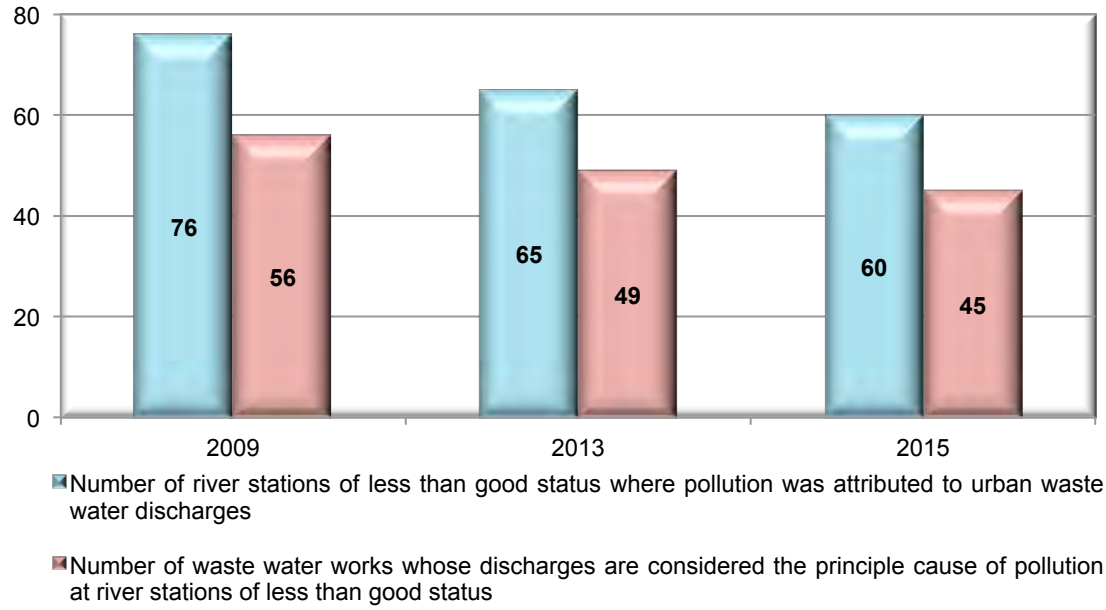
The EPA's 2007-2009 river monitoring programme identified 76 river stations of less than good ecological status where the principle cause of pollution was attributed, with a high degree of probability, to discharges from waste water works serving 56 urban areas[14]. The information available in 2015 from these areas indicates a reduction of approximately 20% since 2009 in river stations impacted by waste water discharges and in waste water works linked with pollution. Changes at these areas since 2009 are summarised in the following bar chart and the 45 waste water works that were still linked with polluted river stations at the end of 2015 are listed in Appendix F.1.

River stations where bad ecological status (i.e. serious pollution) was attributed to urban waste water discharges have reduced from 9 in 2009 to 1 in 2015. The EPA is requiring Irish Water to carry out any corrective actions necessary to ensure that waste water discharges do not prevent receiving

[13] Local authorities have the primary responsibility for the management and monitoring of bathing waters and for the implementation of management measures to reduce or eliminate sources of pollution.
[14] Good ecological status means achieving satisfactory quality water while maintaining ecosystems that can support all the species of plants, birds, fish and animals that live in these aquatic habitats.

waters from achieving at least good status (unpolluted) and meeting the requirements of the Water Framework Directive.

Update on the status of river stations where pollution in 2007-2009 was attributed, with a high degree of probability, to urban waste water discharges.



The EPA is characterising Ireland's 46 catchments in accordance with the Water Framework Directive[15]. This will identify water bodies at risk of not achieving good status and the pollution pressures on these water bodies. This information will then be used to further develop the mitigation measures targeted at restoring and/or protecting the water bodies at risk of not achieving good status. The outcome of this process will inform a revised EPA approach to identify and prioritise waste water discharges that are key pressures on rivers and require a programme of measures to protect/improve the receiving waters.

3.3 Managing risks to freshwater pearl mussels

The freshwater pearl mussel, *Margaritifera margaritifera*, is a critically endangered species of mollusc that requires clean, fast flowing, well oxygenated rivers with little nutrient or organic content and a clean river bed. The on-going national decline in freshwater pearl mussels is attributed to habitat degradation which has resulted in failure to produce new generations of mussels.

During the assessment of applications for waste water discharge authorisations the EPA identified discharges with the potential to impact on freshwater pearl mussels. Following on from this **80** waste water discharge authorisations include a requirement for Irish Water to either provide an ecological assessment of the impacts of discharges on freshwater pearl mussels, or to report on the implementation of any measures applicable to waste water identified in the associated *Freshwater Pearl Mussel Sub-Basin Management Plan*. Following its examination of the reports submitted up to the end of 2015 the EPA identified the following:

Improvements to waste water discharges are required at **16** urban areas in order to protect freshwater pearl mussels from the adverse impacts of waste water.

[15] A catchment is an area of land contributing to a water body, with all the water ultimately running off to a single outlet. Further information on the characterisation process is available on the EPA website.

The 16 areas are listed in Appendix F.3.

3.4 Managing risks to shellfish

Waste water discharges have the potential to contaminate filter feeding shellfish such as oysters, mussels, cockles, scallops and clams. Disinfection of discharges in the vicinity of shellfish waters may be required in certain situations to protect the aquatic habitat of shellfish from the potential adverse effects of waste water discharges.

In order to determine the need for disinfection 70 waste water discharge authorisations require Irish Water to provide an assessment of the impacts of discharges on shellfish. 43 of these impact assessment reports were due before the end of 2015 and 39 reports were submitted to the EPA by this date[16]. Ultraviolet disinfection was provided at 2 areas (Westport and Portrane) arising from the findings of these assessments and the EPA is requiring the impact assessments for the remaining 41 areas to be finalised to inform the need for disinfection of discharges from these areas.

[16] The 4 areas where reports were overdue on 31/12/2015 are Cloyne, Fenit, Kinvara and Omeath.

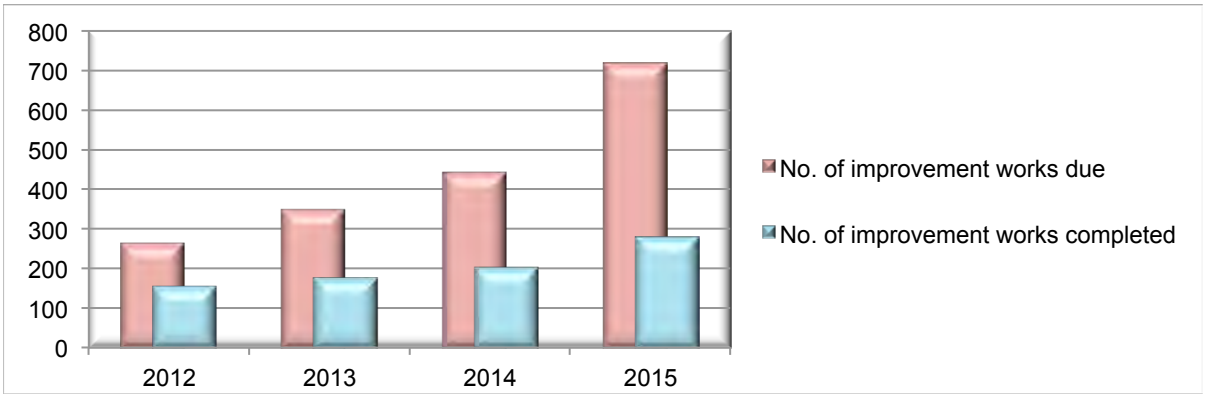
4 Improving environmental performance

The EPA has issued over **1,000** waste water discharge authorisations and compliance with the requirements of these authorisations is critical to protecting water resources, human health and the aquatic environment and preventing environmental pollution.

4.1 Progress on infrastructural improvements

Waste water discharge licences include a requirement to carry out infrastructural improvements within certain timeframes where they are needed to improve discharges and reduce environmental risks. Such improvements typically include upgrades to the waste water treatment plant and collection system and the cessation of certain discharges. Over 90 discharges have ceased since 2009 as a result of these requirements and some notable works completed in 2015 include the provision of new treatment plants at Cavan, Rathdowney and Hacketstown. Notwithstanding these achievements there are significant delays in carrying out many of the improvements required by waste water discharge licences. Approximately 720 individual improvement works were due to be completed at 216 different urban areas between 2009 and 2015. At the end of 2015 just **39%** of these were reported as complete. The EPA is requiring those overdue works which will yield the greatest environmental benefit to be prioritised.

Cumulative number of improvement works due and number of these works completed by the end of each year



4.2 Collection systems

The Urban Waste Water Treatment Directive requires the provision of a collection system for urban waste water at all areas with a population equivalent of at least 2,000. The collection system must be designed and built so as to collect the urban waste water generated within the area it serves, and ensure the collected waste water is retained and conveyed for treatment. The capacity of the collection system must take into account all usual climatic conditions and seasonal variations.

In practice it is not possible to construct waste water collection and treatment systems in a way that ensures all waste water is treated during situations such as unusually heavy rainfall. Collection systems therefore contain spill points, referred to as storm water overflows or combined sewer overflows, which are designed to relieve the system of excess flows that arise as a result of heavy rain. The excess flows bypass the treatment plant and discharge to receiving waters via these spill points. In the absence of such overflow mechanisms the waste water treatment works, as well as private properties, could be at risk of flooding during and after rainstorms.

The collection systems at **13** large urban areas subject to the waste water discharge authorisation programme have been identified as failing to meet the requirements set out in the EU Directive. In many of these areas there are an unacceptable number and/or volume of discharges through the overflow spill points (e.g. overflow events occur in the absence of heavy rainfall) and waste water is being lost too frequently from the collection system. Improvements are required to address deficiencies in these collection systems and the estimated timeframes to bring these 13 areas into compliance with the relevant requirements of the EU Directive are provided in Appendix G.

In order to limit pollution of receiving waters by discharges through storm water overflow points EPA authorisations require all storm water overflows to meet national criteria set out in the Procedures and Criteria in relation to Storm Water Overflows. **1,157** storm water overflows were identified in the Annual Environmental Reports submitted to the EPA during 2015[17]. **29%** of these were reported as compliant with the storm water overflow criteria. The remainder were either non-compliant (23%) or compliance was not determined by Irish Water due to deficits in the necessary information (48%). The EPA is requiring these information shortfalls to be addressed and improvements to be implemented to upgrade or decommission non-compliant storm water overflows.

In a further step to maximise the effectiveness of collection systems and minimise risks to the environment the EPA is requiring the integrity of all waste water works to be assessed so that improvements to rectify substandard or underperforming waste water works can be identified and implemented. There are substantial gaps in the information needed to conduct these assessments and an appropriate approach, based on environmental risks and outcomes, should be employed to schedule the works necessary to complete this work.

4.3 Flow meters and composite samplers

Monitoring of waste water discharges in accordance with the requirements of EPA authorisations is essential to demonstrate the adequacy of treatment, evaluate risk to the receiving environment and assess compliance with effluent quality standards. In order to ensure representative monitoring is carried out key discharge monitoring equipment such as flow meters (which record the volume of effluent discharged) and composite samplers (which allow for the representative sampling of effluent discharged over a period of time) must be provided.

In 2015 the EPA carried out inspections at a subset of licensed discharges and found many areas where this equipment was not in place at the time of the inspection, e.g. inspections identified **68** areas where a continuous flow meter was not in place at the primary discharge and **51** areas where a composite sampler was not provided for compliance monitoring of the primary discharge. Similar concerns were highlighted in the EPA's Urban Waste Water Treatment in 2014 report. Approximately one quarter of samples taken by Irish Water to assess compliance with effluent quality standards in 2015 were reported as grab samples rather than composite samples. A grab sample, which is a sample of effluent discharged at a single point in time, is not considered acceptable for scheduled compliance monitoring.

Following these concerns the EPA gathered further information on the **509** urban areas listed in Appendix A and identified significant deficiencies in essential effluent monitoring equipment.

Shortfalls in effluent monitoring equipment

187 urban areas (36.7%) require flow meters to record the volume of effluent discharged.

139 urban areas (27.3%) require composite samplers to allow for representative effluent sampling.

[17] Information on storm water overflows for areas licensed in 2014 and 2015 was not required in these Annual Environmental Reports but is required in the reports due in 2016 and 2017.

Irish Water's planned schedule to provide the outstanding equipment is unsatisfactory and the EPA is requiring an improved programme, with much shorter timeframes, to install the necessary equipment.

4.4 Capital investment

Capital investment in waste water infrastructure since 2000, which totals €3.8 billion, has brought improvements in waste water treatment to many areas.

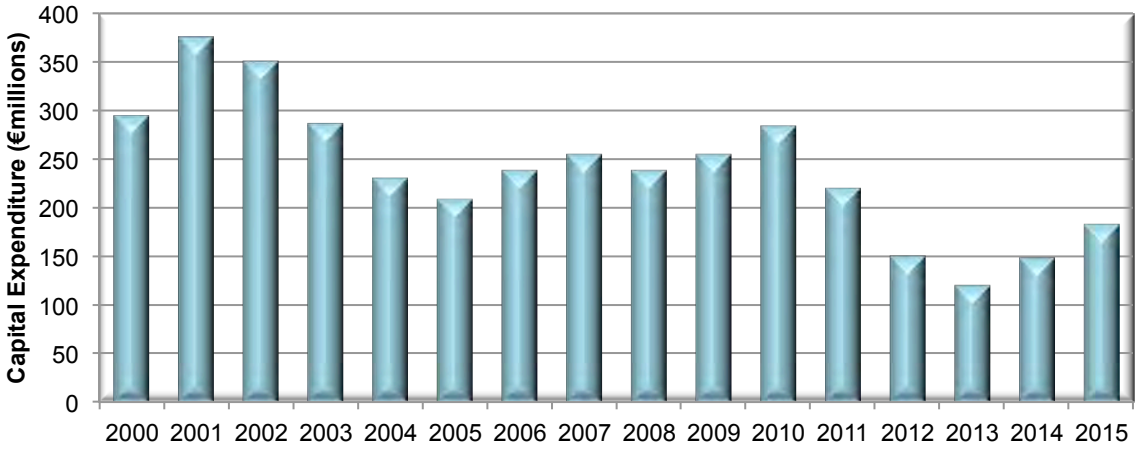
- Waste water receiving little or no treatment was reduced nationally from 30% in 2001 to approximately 4% in 2015.
- Waste water receiving secondary (biological) treatment increased nationally from 29% in 2001 to over 94% in 2015.

The average rate of capital investment between 2000 and 2011 was approximately €270 million per annum and consequently this period saw most of the infrastructure improvements outlined above. Capital investment decreased to an average of approximately €136 million per annum between 2012 and 2013. Since responsibility for the collection and treatment of urban waste water transferred to Irish Water at the beginning of 2014 capital investment has averaged €166 million per annum. While this investment has seen the recent completion of new or upgraded waste water treatment plants at various areas including Clifden, Ardmore, Dunmore East, Dunlavin, Ballylongford and Rathvilly, the pace of progress at resolving environmental priorities is unsatisfactory. The current level of investment in infrastructure is inadequate in order to protect our rivers, lakes and coastal areas from the adverse effects of urban waste water discharges and:

- Eliminate the discharge of raw or poorly treated waste water.
- Comply with the EU's Urban Waste Water Treatment Directive.
- Meet the requirements of EPA waste water discharge authorisations.

There were considerable slippages in the planned dates previously reported by Irish Water for capital works to provide treatment at many areas (refer to section 2.4). It is important that there are no further delays in addressing key priorities.

Capital investment in urban waste water infrastructure between 2000 and 2015[18]



[18] Data from 2000 to 2013 shows expenditure under the Water Services Investment Programme. Expenditure for 2014 and 2015 was provided by Irish Water.

4.5 Environmental incidents and complaints

Incidents

Irish Water must notify the EPA of all incidents, i.e. discharges that do not comply with the requirements of a waste water discharge licence or any occurrence at a waste water works with the potential for environmental contamination or requiring an emergency response by Irish Water and/or relevant authorities. At the end of 2015 there were **212** recurring incidents at 189 different waste water works. These are long term incidents which are likely to continue or recur until the root cause of the incident is resolved. 87% of the recurring incidents relate to breaches of effluent quality standards set in EPA authorisations. The remainder are mostly overflows or uncontrolled releases.

The root causes of recurring incidents at the end of 2015 are summarised as follows:

- 63% are attributed to waste water treatment capacity issues. Infrastructure upgrades are needed to address these issues.
- 21% are linked with treatment plant management issues. Improved management, operation and maintenance of treatment plants are required to close out these incidents.
- 8% are associated with the network used to collect and convey waste water to the treatment plant.
- 8% are attributed to miscellaneous issues such as adverse weather.

91% of the incidents were reported as minor (e.g. deviations from licence requirements with no contamination / localised effects) and 9% (19) were reported as simple contamination. 24 of the recurring incidents had been resolved by the end of July 2016.

Complaints

In 2015 the EPA received complaints in relation to **44** EPA regulated waste water works, up from 37 in 2014. A total of 164 complaints were received and 82% of these concerned discharges or overflows of waste water. The next most common cause of complaints was odour, which accounted for 11% of complaints.

Approximately 45% of complaints concerned the discharge of untreated waste water from Rush in Co. Dublin. This includes one complaint comprising over 280 individually signed copies of a petition to the EPA. The EPA requires Irish Water to connect Rush to a waste water treatment plant and the construction work necessary to comply with this requirement is scheduled for completion by mid-2018. The EPA continues to monitor progress on completion of this priority work in line with the project plan.

4.6 Operational performance

As outlined above 1 in 5 recurring incidents are linked with the operation and management of waste water treatment plants. Significant capital investment is not always required to address some compliance challenges and therefore optimisation of existing infrastructure should be targeted to get the best from the treatment infrastructure already in place and drive improvements in performance and effluent quality.

A maintenance and operation programme for plant and equipment is required at all waste water works. This is a key tool to ensure the correct operation of treatment infrastructure and minimise inadequately treated discharges. EPA inspections in 2015 identified **29** waste water works where a maintenance programme was not in place. Immediate action is necessary to address these shortfalls. Maintenance of critical equipment should not simply be reactive but should take a preventative or

predictive approach so that equipment is maintained in optimum condition and breakdowns are minimised.

The EPA used the BOD, COD and TSS effluent quality standards in the Directive to assess the performance of all urban areas with secondary treatment (including those below the thresholds discussed in chapter 2) and identified **61** areas that did not meet the basic standards, despite appearing to have sufficient treatment capacity (i.e. the generated load was less than the reported capacity of the treatment plant). The 61 areas are highlighted in blue in Appendix A[19].

Progress in completion of process improvements is too slow and it is important that completion of process changes that will bring the greatest improvements in compliance and/or effluent quality are prioritised. Source control should also be examined where it can bring about improvements to the quality of waste water discharges.

Sludge management, including desludging at appropriate intervals to prevent breaches of effluent quality standards, plays an important role in the efficient operation of a treatment plant. Irish Water's waste water treatment plants produced a collective total of **58,387** tonnes of sewage sludge in 2015. Following treatment most sludge was reused on agricultural land as a fertilizer or soil enhancer. When reused in this manner it must be spread in a manner which ensures that the nutrients can be effectively used for plant growth or assimilated into the soil. Information on the destination routes for sludge in 2015 and the quantity treated per county are provided in Appendix H.

[19] Areas such as Hacketstown and Rathvilly which were provided with new waste water treatment plants during 2015 but failed the effluent quality standards because of poor quality effluent from old plants that have now been replaced are not highlighted.

5 Conclusions and recommendations

Effective collection and treatment of urban waste water is essential to the health of our rivers, lakes and coastal waters and to protect human health. Compliance with EPA authorisations is the path to securing this. Urban waste water continues to be one of the **principal pressures on water quality** in Ireland and significant challenges are faced in completing the improvements necessary to ensure waste water is consistently treated to the standards required to protect our environment.

The EPA uses a problem solving approach to pick the most important environmental issues that need to be addressed and thereby **identify where resources should be directed** so that improvements are prioritised where they are most needed. The priorities are summarised in the table below and the cities, towns and villages where the EPA is requiring resources to be targeted are shown on pages iii and iv.

Waste water priorities		
29 areas where waste water was not treated to the required standards[20] *Appendix B*	**43** areas discharging untreated waste water *Appendix E*	**6** areas where discharges contributed to poor quality bathing waters *Appendix F.2*
45 areas linked, with a high degree of probability, to river pollution *Appendix F.1*	**16** areas where improvements are needed to protect freshwater pearl mussels *Appendix F.3*	**13** areas where collection systems do not meet the mandatory requirements[21] *Appendix G*

While capital investment over the years has brought improvements in waste water treatment to many communities it has not kept pace with requirements and there are still significant infrastructural deficiencies that must be addressed. All infrastructure improvements specified in EPA licences must be completed and those required to address the waste water priorities above should be prioritised. **Continued and sustained investment** is required to provide outstanding infrastructure necessary to ensure the effective collection and treatment of waste water. Efficiencies in delivering infrastructural projects should also be targeted so that where investment is available it is directed at **resolving environmental priorities** in as timely a manner as possible.

In some cases improving waste water treatment may not require significant investment but can be progressed through **improved operation and management** of the assets already in place. Staff training, implementation of an effective maintenance and operation programme and optimisation of treatment processes are essential to deliver the best performance and value from existing infrastructure. Improved **communication, co-operation and sharing of information** between Irish Water and the local authority personnel who operate waste water works is also necessary to improve operations and build the knowledge base required to identify and deal with issues in a timely manner.

Reliable data is the bedrock to any problem solving approach to environmental protection. Irish Water must complete risk assessments of the impact of discharges on **shellfish and freshwater pearl mussels** in line with licence requirements. Site specific improvement works arising from the findings of these assessments should be implemented. Information gaps in relation to the **integrity of collection systems** and the assessment of **storm water overflows** against national criteria must

[20] This refers to large urban areas, above the thresholds in Articles 4 and 5 of the Urban Waste Water Treatment Directive, that failed to meet the BOD and COD and, where applicable, nitrogen and/or phosphorus effluent quality standards set in the Directive.
[21] This refers to large urban areas where the waste water collection system is considered non-compliant with the requirements of Article 3 of the Urban Waste Water Treatment Directive

also be addressed so that works needed to rectify substandard collection systems and upgrade / decommission non-compliant storm water overflows can be identified and implemented. There are significant shortfalls in the provision of **flow meters and composite samplers** needed to facilitate representative sampling and monitoring of discharges, assess compliance with effluent quality standards and evaluate risk to the receiving environment. This equipment must be provided without delay.

The establishment of Irish Water provides an ideal opportunity for investment and resources in waste water to be targeted on a national basis at the waste water priorities highlighted in this report. Addressing these priorities will not only deliver good outcomes for our environment but will also boost the economy and businesses dependent on a healthy environment.

Appendix A: County reports.

Explanatory note.

The 2015 assessment of the treatment of waste water from all urban areas subject to the waste water discharge licensing programme is summarised in the following county pages. The summary, based on information provided to the EPA by Irish Water, is presented by county and contains the following[22]:

Urban area: The name of the city, town or village where the waste water was generated, or the name of the waste water treatment plant where the waste water was treated.

Reg. No.: The reference number of the waste water discharge licence or application for the urban area. A licence is required from the EPA for discharges from all of Irish Water's waste water works that serve urban areas with a population equivalent greater than 500. Further information on all licence applications and licences issued by the EPA is available on the EPA website.

BOD & COD compliance:
Pass – the 2015 effluent monitoring results reported to the EPA met the quality standards set in the Directive for biochemical oxygen demand (BOD) and chemical oxygen demand (COD), and a sufficient number of effluent monitoring results were reported to the EPA[23]. The Directive also sets quality standards for total suspended solids (TSS), but this requirement is optional. Urban areas that met the BOD and COD effluent quality standards but did not meet the optional TSS standards are identified in footnotes in the county pages.
Fail – the 2015 effluent monitoring results reported to the EPA did not meet all the quality standards set in the Directive for BOD and COD and/or an insufficient number of effluent monitoring results were reported to the EPA.
No secondary – waste water received no treatment or a basic level of treatment (i.e. preliminary treatment or primary treatment) prior to discharge and consequently the effluent could not achieve the quality standards specified in the Directive[24].

Reason for failure: This only refers to plants with at least secondary treatment that did not meet the BOD and COD standards in the Directive.
Quality – the discharge did not achieve the EU Directive's quality standards for at least one of the following parameters (i) BOD and (ii) COD. A failure for quality implies that the treatment works did not perform to an acceptable standard on at least one sampling occasion during the year.

Persistent failures: A tick mark indicates that at least half of the effluent samples from a plant with secondary treatment did not achieve the BOD and/or COD quality standards in 2015. This is indicative of poor plant performance or overloading of the treatment plant.

Urban area (p.e.): The waste water load (recorded as population equivalent) generated within the area and entering the urban waste water works, i.e. a measurement of the size of the urban area.

WWTP (p.e.): The organic biodegradable load (recorded as population equivalent) that the waste water treatment plant was designed and constructed to deal with.

[22] It is the responsibility of Irish Water to ensure that the effluent monitoring results and all the details on waste water loads, treatment plants and receiving waters provided to the EPA are accurate and reliable.
[23] In accordance with the Directive the standards are mandatory for urban areas >2,000 p.e. discharging to freshwater or estuaries and >10,000 p.e. discharging to coastal waters. In the case of smaller urban areas below these thresholds the EPA used the standards as an indicator guide to assess treatment plant performance.
[24] Secondary treatment is mandatory for urban areas >2,000 p.e. discharging to freshwater or estuaries and >10,000 p.e. discharging to coastal waters. Smaller urban areas below these thresholds require appropriate treatment, which means treatment by any process and/or disposal system which after discharge allows the receiving waters to meet relevant quality objectives and relevant provisions of European Directives.

Level of treatment provided: The maximum level of treatment that the waste water received prior to discharge.
No treatment – waste water was discharged without receiving any treatment.
Preliminary – a basic form of treatment typically designed to remove floating debris, oils, fats, grease, grit, rags and large solids from the raw waste water.
Primary – a physical process that involves the settling out and removal of a proportion of the suspended, generally organic, matter from the raw waste water and a consequential reduction in biochemical oxygen demand and total suspended solids.
Secondary – a biological process whereby organic matter in the waste water is broken down and consumed by microorganisms.
Secondary & P removal / Secondary & N removal / Secondary with N & P removal – in addition to secondary treatment, nutrients such as phosphorous (P) and/or nitrogen (N) were treated and removed from the waste water in order to minimise the risk of eutrophication in receiving waters.
UV. Ultraviolet disinfection was provided for the inactivation / destruction of pathogenic organisms.

Where the treatment was upgraded during 2015 the "*WWTP (p.e.)*" and "*Level of treatment provided*" columns show the treatment in place at the end of 2015.

Receiving water: The type of water body into which the waste water was discharged.

Sensitive area: A tick mark indicates that the discharge is located within a designated sensitive area. The legislation identifying sensitive areas can be viewed in the Urban Waste Water Treatment (Amendment) Regulations. Criteria for identifying sensitive areas (e.g. waters that are eutrophic or may become eutrophic unless protected) are set out in Annex II to the Directive.

Nutrient quality: An assessment of compliance with the effluent quality standards for nutrients (phosphorus and/or nitrogen) at urban areas with a population equivalent above 10,000 discharging directly to designated sensitive areas. One or both nutrient parameters may apply and the EPA determines the applicable parameter(s), taking into account the local situation.

Compliance with quality and sampling standards in the Directive is mandatory for all **171** large urban areas; however the suspended solids requirement is optional. The **29** large urban areas that did not meet the standards for biochemical oxygen demand and chemical oxygen demand and, where applicable, total phosphorus and total nitrogen, are highlighted in red in this Appendix.

The **61** areas with secondary treatment that did not meet the effluent quality standards but appear to have sufficient capacity (i.e. the generated load is within the reported capacity of the treatment plant) are highlighted in blue. Refer to section 4.6 of the report for further details.

County Carlow 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Carlow town	D0028-01	Pass			39,296	36,000	Secondary with N & P removal	River	✓	Pass
Muinebheag & Leighlinbridge	D0090-01	Pass			10,036	4,000	Secondary & P removal	River	✓	Pass
Tullow	D0091-01	Fail[25]	Quality		6,104	4,000	Secondary	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballon	D0247-01	Pass			646	1,200	Secondary & P removal	River		
Borris	D0248-01	Pass			1,013	1,500	Secondary	River		
Fenagh	D0246-01	Pass			625	1,500	Secondary & P removal	River		
Hacketstown	D0243-01	Fail	Quality[26]		731	2,000	Secondary	River		
Myshall	D0390-01	Pass			257	800	Secondary & P removal	River		
Palatine	D0391-01	Pass			704	1,000	Secondary & P removal	River		
Rathoe	D0240-01	Pass			259	2,000	Secondary & P removal	River		
Rathvilly	D0237-01	Fail	Quality[26]		920	2,000	Secondary	River		

[25] The discharge also persistently failed to meet the suspended solids standard. While the Directive sets a limit for this parameter it notes that the requirement is optional.
[26] There was a marked improvement in effluent quality following completion of a WWTP upgrade in mid-2015.

County Cavan 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Bailieborough	D0085-01	Pass[27]			3,245	2,500	Secondary & P removal	River		
Ballyconnell	D0253-01	Pass			2,298	3,000	Secondary & P removal	River		
Cavan	D0020-01	Pass			36,047	30,000	Secondary & P removal	River	✓	Pass
Cootehill	D0082-01	Pass			4,873	2,756	Secondary with N & P removal	River		
Virginia	D0255-01	Pass			2,363	2,000	Secondary & P removal	Lake		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Arvagh	D0497-01	Pass			1,289	1,200	Secondary & P removal	River		
Ballinagh	D0501-01	Pass[27]			1,250	1,800	Secondary & P removal	River		
Ballyhaise	D0496-01	Fail	Quality		1,382	905	Secondary & P removal	River		
Ballyjamesduff	D0256-01	Pass			1,930	2,200	Secondary & P removal	River		
Belturbet	D0084-01	Pass			679	4,000	Secondary & P removal	River		
Blacklion	D0498-01	Fail	Quality	✓	390	1,025	Secondary & P removal	Lake		
Killeshandra	D0499-01	Fail	Quality		407	1,000	Secondary & P removal	Lake		
Kilnaleck	D0500-01	Pass			1,146	1,000	Secondary & P removal	River		
Kingscourt	D0083-01	Pass			1,819	2,335	Secondary & P removal	River		
Mullagh	D0252-01	Pass			1,406	3,000	Secondary & P removal	River		
Shercock	D0495-01	Pass			420	1,000	Secondary & P removal	Lake		

[27] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

County Clare 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ennis North	D0048-01	Pass			20,873	17,000	Secondary	River	✓	Pass
Ennis South	D0199-01	Pass			2,826	6,000	Secondary & P removal	River	✓	
Ennistymon	D0081-01	Fail	Quality		2,050	2,100	Secondary	Estuarine		
Lahinch	D0080-01	Fail	Quality		3,900	8,400	Secondary	River		
Newmarket on Fergus	D0079-01	Pass			6,550	5,000	Secondary & P removal	Lake		
Shannon Town	D0045-01	Fail	Quality	✓	17,552	12,500	Secondary	Estuarine		
Sixmilebridge	D0076-01	Pass			2,435	6,000	Secondary & P removal	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballyvaughan	D0327-01	No secondary			800		No treatment	Coastal		
Clarecastle	D0322-01	No secondary			1,200		No treatment	Estuarine		
Corofin	D0434-01	Pass			598	1,725	Secondary & P removal	River		
Crusheen	D0424-01	Pass			575	713	Secondary	River		
Doonbeg	D0324-01	Pass			1,092	1,500	Secondary & UV	Coastal		
Inagh	D0422-01	Fail	Quality		269	550	Secondary & P removal	River		
Kilkee	D0078-01	No secondary			5,976		No treatment	Coastal		
Kilkishen	D0420-01	Pass			430	750	Secondary & P removal	Lake		
Kilrush	D0075-01	No secondary			5,568		No treatment	Coastal		
Liscannor	D0430-01	No secondary			763		No treatment	Coastal		
Lisdoonvarna	D0077-01	Pass[28]			1,835	2,500	Secondary & P removal	River		
Milltown Malbay	D0321-01	Fail	Quality		1,908	1,360	Secondary	River		

[28] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality
Quilty/Kilmurry/ Ibrickane	D0536-01	Pass			1,109	1,350	Secondary & UV	Coastal		
Quin	D0318-01	Fail	Quality		1,100	740	Secondary	River		
Scarriff	D0319-01	Pass			649	1,397	Secondary & P removal	River		
Tulla	D0320-01	Pass			289	2,000	Secondary & P removal	River		

County Cork 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ballincollig	D0049-01	Pass			36,493	33,000	Secondary with N & P removal	River		
Baltimore	D0296-01	Pass			2,500	3,600	Secondary & UV	Estuarine		
Bandon	D0136-01	Pass			10,396	20,000	Secondary	River		
Blarney	D0043-01	Pass			10,160	13,000	Secondary with N & P removal	River		
Carrigtwohill	D0044-01	Fail[29]	Quality		16,200	12,000	Secondary	Estuarine	✓	Fail (Phosphorus)
Charleville	D0204-01	Pass			11,720	7,500	Secondary & P removal	River		
Clonakilty	D0051-01	Pass			27,352	20,500	Secondary	Estuarine	✓[30]	
Cobh	D0054-01	No secondary			14,400		No treatment	Coastal		
Cork City	D0033-01	Pass			300,013	413,200	Secondary	Estuarine	✓	Fail (Nitrogen)
Fermoy	D0058-01	Pass			17,125	11,000	Secondary & P removal	River	✓	Pass
Kanturk	D0203-01	Pass			2,291	3,500	Secondary & P removal	River		
Kinsale	D0132-01	Pass			7,414	9,800	Secondary with N & P removal & UV	Estuarine	✓	
Macroom	D0126-01	Pass			4,727	5,055	Secondary & P removal	River		
Mallow	D0052-01	Pass			9,661	10,500	Secondary & P removal	River	✓	
Midleton	D0056-01	Pass			16,879	15,000	Secondary, N removal & UV	Coastal	✓	Pass
Mitchelstown	D0202-01	Pass			7,272	6,000	Secondary & P removal	River		
Newmarket	D0333-01	Pass			2,539	1,500	Secondary	River		

[29] The discharge also persistently failed to meet the suspended solids standard. While the Directive sets a limit for this parameter it notes that the requirement is optional.
[30] Designated as a sensitive area by the Urban Waste Water Treatment (Amendment) Regulations 2010. Nutrient reduction required by 22nd December 2016.

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Passage-Monkstown	D0129-01	No secondary			9,120		No treatment	Estuarine	✓	
Ringaskiddy-Crosshaven-Carrigaline	D0057-01	No secondary			116,982		Preliminary	Coastal		
Skibbereen	D0166-01	Pass			4,600	4,700	Secondary	Estuarine		
Youghal	D0139-01	No secondary			15,000		No treatment	Estuarine	✓	Fail (Nitrogen)
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballineen & Enniskeane	D0472-01	Pass			1,027	350	Secondary	River		
Ballingeary	D0431-01	No secondary			335	200	Primary	River		
Ballyclough	D0441-01	Pass[31]			176	800	Secondary	River		
Ballycotton	D0516-01	No secondary			900		No treatment	Coastal		
Ballydehob	D0467-01	No secondary			687	700	Primary	Coastal		
Ballygarvan	D0540-01	Pass			566	634	Secondary	River		
Ballyhooley	D0432-01	Pass			594	375	Secondary	River	✓	
Ballymakeera	D0299-01	No secondary			860	200	Primary	River		
Banteer	D0448-01	Fail	Quality		586	700	Secondary	River		
Bantry	D0168-01	Pass			4,235	6,000	Secondary, P removal & UV	Coastal		
Belgooly	D0541-01	Fail	Quality	✓	414	1,000 + 75	Secondary & UV[32]	River & Estuarine		
Boherbue	D0437-01	Pass			398	800	Secondary with N & P removal	River		
Buttevant	D0303-01	Pass			502	3,150	Secondary & P removal	River		

[31] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.
[32] Waste water from a population equivalent of approximately 20 is discharged to estuarine water without treatment through a secondary discharge point.

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Bweeng	D0438-01	Pass			216	500	Secondary & P removal	River		
Carrignavar	D0517-01	Fail	Quality	✓	292	500	Secondary	River		
Castlelyons	D0449-01	Pass			467	1,200	Secondary	River		
Castlemartyr	D0134-01	Fail	Quality		1,200	2,000	Secondary	River		
Castletownbere	D0297-01	No secondary			1,700		No treatment	Coastal		
Castletownroche	D0293-01	Fail	Quality	✓	916	1,000	Secondary	River		
Castletownshend	D0468-01	No secondary			188		No treatment	Coastal		
Churchtown	D0444-01	Pass			830	936	Secondary & UV	Ground		
Clondulane	D0445-01	Pass[33]			292	900	Secondary	River		
Cloughduv	D0330-01	Pass			215	1,500	Secondary & P removal	River		
Cloyne	D0298-01	Pass			960	1,400	Secondary	River		
Coachford	D0427-01	No secondary			990	402	Primary	Lake		
Conna	D0439-01	Fail	Quality	✓	1,158	800	Secondary	River		
Courtmacsherry	D0294-01	No secondary			1,450	500	Primary	Estuarine		
Doneraile	D0300-01	Pass			1,001	1,680	Secondary & P removal	River		
Drimoleague	D0470-01	Pass			208	500	Secondary	River		
Dripsey	D0426-01	Pass			163	600	Secondary	River		
Dromahane	D0302-01	Pass			953	1,000	Secondary & P removal	River		
Dunmanway	D0160-01	Pass			1,768	3,500	Secondary & P removal	River		
Glanworth	D0450-01	Fail	Quality	✓	576	800	Secondary	River		
Glengariff	D0471-01	No secondary			900	1,000	Primary	Estuarine		

[33] The discharge persistently did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Glenville	D0515-01	Fail	Quality	✓	758	300	Secondary	River		
Innishannon	D0429-01	No secondary			599	364	Primary	Estuarine	✓	
Kilbrittan	D0425-01	Pass			517	800	Secondary & P removal	River		
Kildorrery	D0442-01	Pass			478	850	Secondary	River		
Killavullen	D0447-01	Pass			289	1,000	Secondary	River		
Killeagh	D0301-01	Pass			1,080	2,400	Secondary & P removal	River		
Killeens	D0329-01	Pass			727	1,200	Secondary & P removal	River		
Kilworth	D0334-01	Pass			1,568	2,500	Secondary & P removal	River		
Ladysbridge	D0328-01	Pass			612	1,000	Secondary & P removal	River		
Millstreet	D0332-01	Pass			1,062	1,600	Secondary	River		
North Cobh	D0140-01	Pass			1,165	2,000	Secondary	Coastal	✓	
Rathcormac	D0200-01	Fail	Quality	✓	910	4,000	Secondary & P removal	River		
Ringaskiddy Village	D0436-01	No secondary			942		Preliminary	Coastal		
Riverstick	D0433-01	Pass			509	1,000	Secondary & P removal	River		
Rosscarbery-Owenahincha	D0172-01	No secondary			4,051	5,239	Primary	Coastal		
Schull	D0295-01	Pass			2,500	3,000	Secondary	Coastal		
Union Hall	D0469-01	No secondary			772	400	Primary	Estuarine		
Watergrasshill	D0201-01	Pass			1,030	3,000	Secondary & P removal	River		
Whitegate-Aghada	D0423-01	No secondary			2,266		No treatment	Coastal		

County Donegal 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ballybofey-Stranorlar	D0120-01	Pass			6,521	4,000	Secondary	River		
Ballyshannon	D0128-01	Pass			2,104	6,100	Secondary	Estuarine		
Bundoran	D0130-01	No secondary			13,034		No treatment	Coastal		
Carndonagh	D0113-01	Pass			5,424	5,833	Secondary & UV	River		
Convoy	D0344-01	No secondary			2,887	1,050	Primary	River		
Donegal Town	D0135-01	Pass			5,489	12,000	Secondary	Estuarine		
Killybegs	D0011-01	No secondary			12,000		No treatment	Coastal	✓	Fail
Letterkenny	D0009-01	Pass			29,542	40,000	Secondary & P removal	Estuarine		
Lifford	D0352-01	No secondary			2,182	1,550	Primary	Estuarine		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ardara	D0512-01	Pass			1,920	2,350	Secondary	Estuarine		
Ballyliffen	D0351-01	Fail	Quality	✓	1,303	400	Secondary	River		
Bridgend	D0532-01	Fail	Quality	✓	763	652	Secondary	River		
Buncrana	D0125-01	No secondary			8,448	13,200	Primary	Coastal		
Burnfoot	D0531-01	Fail	Quality		142	180	Secondary	River		
Carrigart	D0523-01	No secondary			865	450	Primary	Coastal		
Castlefinn	D0514-01	No secondary			1,061	700	Primary	River		
Clonmany	D0533-01	Pass			720	450	Secondary	River		
Creeslough	D0534-01	Pass			850	300	Secondary	River		
Downings	D0350-01	No secondary			2,090	1,000	Primary	Coastal		
Dunfanaghy-Portnablagh	D0211-01	No secondary			2,376	900	Primary	Coastal		

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Dungloe	D0208-01	No secondary			2,007	1,200	Primary	Coastal		
Fahan	D0535-01	No secondary			906	800	Primary	Estuarine		
Falcarragh	D0343-01	No secondary			1,978		Preliminary	Coastal		
Glenties	D0210-01	No secondary[34]			1,749	1,600	Primary then upgrade to Secondary & P removal	River		
Kilcar	D0520-02	No secondary			1,230		Preliminary	Coastal		
Killea	D0537-01	Fail	Quality	✓	636	800	Secondary	River		
Killygordon	D0518-01	Pass			685	600	Secondary	River		
Kilmacrennan	D0513-01	Pass			661	500	Secondary	River		
Manorcunningham	D0519-01	Pass			775	1,000	Secondary	River		
Milford	D0342-01	Pass[35]			1,516	920	Secondary	River		
Mountcharles	D0522-01	Fail[36]	Quality	✓	554	380	Secondary	River		
Moville	D0212-01	No secondary			1,753		No treatment	River & Coastal		
Newtowncunningham	D0349-01	Pass[35]			1,287	600	Secondary	River		
Ramelton	D0341-01	No secondary			1,754		No treatment	Estuarine		
Raphoe	D0209-01	Pass			1,686	800	Secondary	River		
Rathmullan	D0345-01	No secondary			1,927		No treatment	Estuarine		
Rossnowlagh	D0539-01	Pass			688	4,000	Secondary	Coastal		
St Johnston	D0538-01	No secondary			644		No treatment	River		

[34] Glenties had primary treatment for most of the year. A new waste water treatment plant with secondary treatment and P removal was provided in late 2015.
[35] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.
[36] Waste water treatment at Mountcharles is split between 2 plants with secondary treatment. The larger plant, which caters for 85% of the area, persistently did not meet the effluent quality standards. The smaller plant met the effluent quality standards.

County Dublin 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Dublin City										
Greater Dublin (Ringsend)	D0034-01	Fail	Quality		2,316,000	1,640,000	Secondary & UV[37]	Estuarine	✓	Fail (Nitrogen & Phosphorus)
Dun Laoghaire - Rathdown										
Shanganagh	D0038-01	Pass			122,182	186,000	Secondary	Coastal		
Fingal										
Balbriggan-Skerries	D0023-01	Pass			38,263	70,000	Secondary & UV[38]	Coastal		
Malahide	D0021-01	Pass[39]			19,613	21,000	Secondary & UV	Estuarine		
Portrane	D0114-01	Pass			22,222	65,000	Secondary & UV	Coastal		
Swords	D0024-01	Pass			82,792	60,000 + 500	Secondary with N & P removal[40]	Estuarine & River	✓	Pass
Smaller urban area below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Fingal										
Rush	D0119-01	No secondary			7,800		No treatment	Coastal		

[37] Waste water from a population equivalent of approximately 120 is discharged to coastal water without treatment through a secondary discharge point at Doldrum Bay. This discharge is not directly into a designated sensitive area and it is required to cease.
[38] Waste water from a population equivalent of approximately 840 receives primary treatment at Loughshinny prior to discharge to coastal water through a secondary discharge point. This discharge is required to cease.
[39] The discharge failed to meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.
[40] Waste water from a population equivalent of approximately 450 receives secondary treatment at Toberburr prior to discharge to a freshwater river through a secondary discharge point. This discharge met the relevant effluent quality standards in 2015, is not directly into a designated sensitive area and is required to cease.

County Galway 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Athenry	D0193-01	Pass			4,247	6,000	Secondary & P removal	River		
Ballinasloe	D0032-01	Pass			8,908	13,500	Secondary & P removal[41]	River		
Clifden	D0198-01	Fail[42]	Quality		3,737	6,000	Primary then upgrade to Secondary, P removal & UV	Estuarine		
Galway City	D0050-01	Pass			145,000	91,600	Secondary	Coastal		
Gort	D0195-01	Pass			16,590	4,310	Secondary	River		
Loughrea	D0194-01	Pass			6,148	9,500	Secondary & P removal	River		
Mountbellew	D0219-01	Fail	Quality	✓	2,702	700	Secondary	River		
Portumna	D0196-01	Pass			2,870	3,100	Secondary & P removal	Lake	✓	
Tuam	D0031-01	Pass			16,368	24,834	Secondary & P removal	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballygar	D0371-01	Pass[43]			1,493	360	Secondary	River		
Carraroe	D0388-01	No secondary			1,401		No treatment	Coastal		
Dunmore	D0370-01	Pass			629	3,000	Secondary & P removal	River		
Glenamaddy	D0379-01	No secondary			580	300	Primary	Lake / turlough		
Headford	D0197-01	Pass			1,111	3,000	Secondary & P removal	River		
Kinvara	D0276-01	No secondary			698		No treatment	Estuarine		

[41] Waste water from a population equivalent of 70 receives primary treatment prior to discharge through a secondary discharge point. This discharge is required to cease.
[42] Clifden failed the effluent quality standards due to a lack of secondary treatment for part of the year. There was a marked improvement in effluent quality following provision of a new waste water treatment plant during 2015.
[43] The discharge persistently did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Moycullen	D0191-01	Pass			1,812	4,000	Secondary & P removal	River		
Moylough	D0403-01	Pass			511	600	Secondary	River		
Oughterard	D0192-01	Fail	Quality		1,823	500	Secondary	River		
Spiddal	D0396-01	No secondary			490		No treatment	Coastal		

County Kerry 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ballybunion	D0183-01	Pass			3,760	8,180	Secondary	Estuarine	✓	
Cahersiveen	D0181-01	Pass			2,770	5,600	Secondary	Estuarine		
Castleisland	D0180-01	Pass			4,918	6,000	Secondary & P removal	River		
Kenmare	D0184-01	Pass			6,200	5,833	Secondary	River		
Killarney	D0037-01	Pass			41,836	54,000	Secondary with N & P removal	River		
Killorglin	D0182-01	Pass			4,644	5,000	Secondary	Estuarine		
Listowel	D0179-01	Pass			8,003	12,500	Secondary	River		
Milltown	D0331-01	Pass			5,312	3,500	Secondary	River		
Tralee	D0040-01	Pass			17,070	50,333	Secondary & UV	Estuarine	✓	Pass
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Abbeydorney	D0417-01	No secondary			644	350	Primary	River		
Ardfert	D0282-01	No secondary			271	450	Primary	River		
Ballyduff	D0418-01	No secondary			1,488	300	Primary	River		
Ballyheigue	D0186-01	Pass			3,186	4,234	Secondary, N removal & UV	Coastal		
Ballylongford	D0459-01	No secondary[44]			145	1,000	No treatment then upgrade to Secondary, N removal & UV	River	✓	
Castlegregory	D0461-01	No secondary			1,447	300	Primary	Coastal		
Dingle	D0185-01	Pass			7,676	12,000	Secondary	Coastal		
Fenit	D0284-01	No secondary			1,000	500	Primary	Coastal		
Fieries	D0460-01	Pass			1,859	1,500	Secondary & P removal	River		
Glenbeigh	D0286-01	Fail	Quality		900	800	Secondary	River		
Knightstown	D0421-01	No secondary[45]			185	500	Primary then upgrade to Secondary	Coastal		

[44] Ballylongford received no treatment for part of the year. A new waste water treatment plant was completed during 2015.
[45] Knightstown received primary treatment for part of the year. An upgraded waste water treatment plant with secondary treatment was provided in mid-2015.

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Lixnaw	D0462-01	No secondary			971	300	Primary	River		
Rathmore	D0419-01	Pass			349	1,750	Secondary	River		
Sneem	D0285-01	Pass			1,165	2,500	Secondary, P removal & UV	Estuarine		
Tarbert	D0283-01	No secondary[46]			613	1,300	Primary then upgrade to Secondary	Estuarine		
Waterville	D0287-01	Pass			1,700	3,000	Secondary & UV	Coastal		

[46] Tarbert received primary treatment for part of the year. An upgraded waste water treatment plant with secondary treatment was provided during 2015.

County Kildare 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Athy	D0003-01	Pass			13,800	15,000	Secondary & P removal	River	✓	Pass
Derrinturn	D0244-01	Pass			2,946	1,600	Secondary & P removal	River		
Kildare Town	D0178-01	Pass			8,215	28,000	Secondary & P removal	River		
Leixlip	D0004-02	Pass			117,398	150,000	Secondary with N & P removal	River	✓	Pass
Monasterevin	D0177-01	Pass			4,896	9,000	Secondary & P removal	River	✓	
Osberstown (Upper Liffey Valley Scheme)	D0002-01	Pass			101,620	80,000	Secondary & P removal	River	✓	Pass
Rathangan	D0175-01	Pass			2,808	4,000	Secondary & P removal	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Allenwood	D0493-01	Pass			1,136	1,500	Secondary & P removal	River		
Ballymore Eustace	D0238-01	Fail	Quality		529	2,000	Secondary & P removal	River		
Castledermot	D0236-01	Pass			1,901	2,400	Secondary & P removal	River		
Coill Dubh	D0242-01	Pass[47]			1,051	2,000	Secondary & P removal	River		
Kilmeague	D0233-01	Fail	Quality	✓	674	700	Secondary	River		
Robertstown	D0234-01	Pass			893	1,000	Secondary & P removal	River		

[47] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

County Kilkenny 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Callan	D0159-01	Pass[48]			3,504	4,000	Secondary	River		
Kilkenny City	D0018-01	Pass[48]			41,605	77,000	Secondary & P removal	River	✓	Pass
Piltown	D0157-01	Pass			2,870	1,500	Secondary	River		
Thomastown	D0151-01	Pass			2,966	7,500	Secondary & P removal	River	✓	
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballyhale – Knocktopher	D0530-01	Pass			160	400	Secondary	River		
Ballyragget	D0337-01	Pass			1,412	1,920	Secondary	River		
Bennettsbridge	D0400-01	No secondary			812	724	Primary	River	✓	
Castlecomer	D0149-01	Fail	Quality	✓	1,602	2,500	Secondary	River		
Clogh-Moneenroe	D0340-01	Pass			586	1,740	Secondary	River		
Fiddown	D0528-01	No secondary			409	608	Primary	Estuarine	✓	
Freshford	D0526-01	No secondary			763	320	Primary	River		
Goresbridge	D0529-01	No secondary			402	400	Primary	River	✓	
Gowran	D0335-01	Pass			634	826	Secondary & P removal	River		
Graiguenamanagh	D0155-01	Pass			1,816	3,000	Secondary with N & P removal	River		
Johnstown	D0401-01	No secondary			1,080	900	Primary	River		
Kilmacow	D0525-01	Pass			1,129	2,500	Secondary & P removal	River		
Mooncoin	D0145-01	Pass[48]			1,259	2,800	Secondary	Estuarine	✓	
Paulstown	D0339-01	Pass			634	1,000	Secondary	River		
Urlingford	D0336-01	Fail	Quality		1,208	1,690	Secondary	River		

[48] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional. In the case of Kilkenny City 1 of 363 samples exceeded the allowable standard.

County Laois 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Mountmellick	D0152-01	Pass			4,765	7,000	Secondary	River		
Portarlington	D0158-01	Fail[49]	Quality		10,013	13,000	Secondary	River	✓	Fail (Phosphorus)
Portlaoise	D0001-01	Pass			42,832	39,000	Secondary with N & P removal	River	✓	Pass
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Abbeyleix	D0156-01	Pass			1,528	4,000	Secondary & P removal	River		
Ballinakill	D0384-01	Pass			436	700	Secondary	River		
Ballylinan	D0291-01	Pass			1,109	2,000	Secondary with N & P removal	River		
Ballyroan	D0385-01	Fail	Quality	✓	731	600	Secondary & P removal	River		
Borris-in-Ossory	D0290-01	Pass			1,186	1,626	Secondary	River		
Castletown	D0387-01	Fail	Quality	✓	190	500	Secondary	River		
Clonaslee	D0386-01	Pass			425	1,200	Secondary	River		
Durrow	D0289-01	Pass			601	3,000	Secondary & P removal	River		
Mountrath	D0153-01	Pass[50]			1,991	4,500	Secondary & P removal	River		
Rathdowney	D0288-01	Pass			1,084	3,500	Secondary & P removal	River		
Stradbally	D0292-01	Pass			834	3,500	Secondary & P removal	River		

[49] The discharge also persistently failed to meet the suspended solids standard. While the Directive sets a limit for this parameter it notes that the requirement is optional.
[50] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

County Leitrim 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Carrick-on-Shannon	D0154-01	Pass			5,676	11,500	Secondary & P removal	River		
Drumshanbo	D0144-01	Fail	Quality		2,683	4,000	Secondary & P removal	River		
Manorhamilton	D0150-01	Pass			5,201	3,500	Secondary & P removal	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballinamore	D0281-01	Pass			1,188	2,000	Secondary & P removal	River		
Dromahair	D0279-01	Pass			1,474	2,200	Secondary & P removal	River		
Kinlough	D0280-01	Pass			1,471	2,100	Secondary & P removal	River		
Leitrim Village	D0278-01	Pass			602	1,000	Secondary & P removal	River		
Mohill	D0277-01	Pass			1,681	2,000	Secondary & P removal	River		

County Limerick 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Castletroy	D0019-01	Pass			24,151	29,477	Secondary & P removal	River		
Dromcollagher	D0316-01	Fail	Quality	✓	2,819	400	Secondary	River		
Hospital	D0314-01	Fail	Quality	✓	2,128	500	Secondary	River		
Limerick City	D0013-01	Pass			263,814	130,000	Secondary	Estuarine		
Newcastle West	D0108-01	Pass			14,034	9,000	Secondary & P removal	River		
Rathkeale	D0112-01	Pass			2,256	4,000	Secondary & P removal	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Abbeyfeale	D0115-01	Pass			1,726	2,860	Secondary & P removal	River		
Adare	D0312-01	Pass			1,372	2,500	Secondary & P removal	Estuarine		
Askeaton	D0315-01	No secondary			576	550	Primary	Estuarine		
Athea	D0508-01	No secondary			322	263	Primary	River		
Ballingarry	D0507-01	Fail	Quality		152	1,350	Secondary	River		
Bruff	D0313-01	Pass			871	2,140	Secondary & P removal	River		
Bruree	D0506-01	Pass[51]			762	1,200	Secondary & P removal	River		
Caherconlish	D0308-01	Fail	Quality		1,153	2,500	Secondary & P removal	River		
Cappamore	D0310-01	Pass[51]			571	1,534	Secondary & P removal	River		
Croom	D0307-01	Pass			1,166	2,000	Secondary & P removal	River		
Doon	D0309-01	Pass			580	1,534	Secondary & P removal	River		
Foynes	D0502-01	No secondary			530	950	Primary	Estuarine		
Glin	D0504-01	No secondary			354	710	Primary	Estuarine		
Kilfinnane	D0305-01	Pass			504	1,500	Secondary & P removal	River		

[51] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Kilmallock	D0106-01	Pass			1,583	4,000	Secondary & P removal	River		
Murroe	D0306-01	Fail	Quality	✓	1,435	800	Secondary	River		
Oola	D0505-01	Pass[52]			325	350	Secondary & P removal	River		
Pallasgreen	D0503-01	Fail[53]	Quality		448	750	Secondary & P removal	River		
Pallaskenry	D0304-01	Pass[52]			662	2,000	Secondary & P removal	Estuarine		

County Longford 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ballymahon	D0096-01	Pass			2,654	2,125	Secondary with N & P removal	River		
Edgeworthstown	D0098-01	Pass			2,839	2,700	Secondary & P removal	River		
Granard	D0187-01	Pass			2,371	3,200	Secondary	Lake		
Longford	D0060-01	Pass			18,398	17,000	Secondary with N & P removal	River	✓	Pass
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Drumlish	D0489-01	Pass			564	1,200	Secondary & P removal	River		
Newtownforbes	D0317-01	Pass			1,115	1,800	Secondary & P removal	River	✓	

[52] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.
[53] The discharge also persistently did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

County Louth 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ardee	D0117-01	Fail[54]	Quality		8,639	5,000	Secondary	River		
Blackrock	D0188-01	Fail	Quality		5,104	6,000	Secondary	Estuarine		
Drogheda	D0041-01	Pass			65,186	101,600	Secondary	Estuarine	✓[55]	
Dromiskin	D0264-01	Pass			2,095	2,100	Secondary & P removal	River		
Dundalk	D0053-01	Pass			54,604	179,107	Secondary	Estuarine	✓	Pass
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Carlingford	D0268-01	Pass[56]			2,600	1,500	Secondary	Coastal		
Castlebellingham	D0269-01	Fail	Quality	✓	707	1,700	Secondary	River		
Clogherhead	D0265-01	Fail	Quality		1,164	2,000	Secondary	Coastal		
Collon	D0261-01	Pass			1,262	1,200	Secondary & P removal	River		
Dunleer	D0111-01	Pass			1,937	4,344	Secondary	River		
Knockbridge	D0260-01	Pass			637	1,000	Secondary	River		
Louth Village	D0263-01	Pass			754	1,200	Secondary	River		
Tallanstown	D0270-01	Pass			1,105	1,000	Secondary	River		
Tullyallen	D0266-01	Pass			1,091	1,800	Secondary	Estuarine	✓	

[54] The discharge also persistently failed to meet the suspended solids standard. While the Directive sets a limit for this parameter it notes that the requirement is optional.
[55] Designated as a sensitive area by the Urban Waste Water Treatment (Amendment) Regulations 2010. Nutrient reduction required by 22nd December 2016.
[56] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

County Mayo 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ballina	D0016-01	Pass			20,094	25,000	Secondary & P removal	Estuarine		
Ballinrobe	D0070-01	Pass			14,530	8,000	Secondary & P removal	River		
Ballyhaunis	D0069-01	Pass			5,864	4,000	Secondary & P removal	River		
Castlebar	D0047-01	Pass			18,500	28,000	Secondary with N & P removal	River	✓	Pass
Claremorris	D0071-01	Pass			4,459	5,333	Secondary & P removal	River		
Foxford	D0213-01	Pass[57]			2,488	1,360	Secondary	River		
Swinford	D0068-01	Pass			6,616	6,500	Secondary & P removal	River		
Westport	D0055-01	Pass			18,152	15,042	Secondary with N & P removal[58]	Estuarine		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Achill Island Central	D0072-01	Pass			4,378	4,000	Secondary	Coastal		
Achill Sound	D0511-01	Pass			256	1,200	Secondary & UV	Coastal		
Balla	D0216-01	Fail[59]	Quality		1,414	1,200	Secondary	River		
Ballindine	D0355-01	Pass			462	732	Secondary & P removal	River		
Ballycastle	D0356-01	Pass			300	600	Secondary	River		
Bangor Erris	D0215-01	Pass			1,334	1,080	Secondary & P removal	River		
Belcarra	D0366-01	Fail	Quality	✓	318	500	Secondary	River		

[57] The discharge persistently failed to meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.
[58] UV disinfection was provided in 2016 to protect shellfish waters.
[59] The discharge also persistently did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Belmullet	D0074-01	No secondary			1,202		No treatment	Coastal		
Charlestown	D0214-01	Pass			1,320	1,200	Secondary	River		
Cong	D0066-01	Pass[60]			539	2,026	Secondary & P removal	Lake		
Crossmolina	D0073-01	Pass			436	3,150	Secondary & P removal	River		
Doogort	D0367-01	Pass			589	700	Secondary	Coastal		
Kilkelly	D0357-01	Pass			997	900	Secondary	River		
Killala	D0067-01	No secondary			1,800		No treatment	Coastal		
Kilmaine	D0361-01	Pass			703	800	Secondary	River		
Kiltimagh	D0217-01	Pass			1,210	3,333	Secondary with N & P removal	River		
Knock	D0065-01	Pass			1,240	6,200	Secondary & P removal	River		
Lahardane	D0380-01	Fail	Quality	✓	392	500	Secondary	River		
Louisbourgh	D0220-01	Pass			752	1,000	Secondary	River		
Mallaranny	D0218-01	Pass			690	1,017	Secondary	Coastal		
Newport	D0224-01	No secondary			1,470	1,287	Primary	Estuarine		
Shrule	D0359-01	Pass			355	600	Secondary	River		

[60] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

County Meath 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Athboy	D0124-01	Pass			2,885	5,800	Secondary & P removal	River		
Duleek	D0133-01	Pass			5,158	7,000	Secondary & P removal	River		
Dunshaughlin	D0138-01	Pass			9,611	12,000	Secondary & P removal	River		
Enfield	D0131-01	Pass			5,873	3,500	Secondary & P removal	River		
Kells	D0127-01	Pass			8,192	8,000	Secondary	River		
Navan	D0059-01	Pass			45,881	50,000	Secondary with N & P removal	River	✓	Pass
Oldcastle	D0258-01	Pass			2,254	3,500	Secondary & P removal	River		
Stamullen	D0262-01	Fail	Quality		3,395	2,300	Secondary & P removal	River		
Trim	D0137-01	Pass			7,224	12,000	Secondary & P removal	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballivor	D0254-01	Pass			1,158	2,000	Secondary & P removal	River		
Carlanstown	D0488-01	Fail	Quality		749	820	Secondary & P removal	River		
Donore	D0251-01	Pass			830	1,200	Secondary & P removal	River	✓	
Drumconrath	D0483-01	Pass			262	600	Secondary	River		
Kentstown	D0479-01	Pass			1,014	600	Secondary & P removal	River		
Kildalkey	D0486-01	Pass			528	900	Secondary	River		
Kilmainhamwood	D0481-01	Pass			176	1,000	Secondary & P removal	River		
Longwood	D0250-01	Pass			1,440	1,500	Secondary & P removal	River		
Nobber	D0487-01	Pass			437	600	Secondary	River		
Slane	D0257-01	Pass			1,550	2,250	Secondary	River	✓	
Summerhill	D0259-01	Pass			978	3,000	Secondary & P removal	River		

County Monaghan 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ballybay	D0207-01	Pass			2,316	7,823	Secondary	River		
Carrickmacross	D0062-01	Pass			12,041	12,150	Secondary with N & P removal	River	✓	Pass
Castleblayney	D0205-01	Pass			11,560	12,960	Secondary & P removal	Lake	✓	Pass
Clones	D0206-01	Pass			2,467	4,500	Secondary	River		
Monaghan	D0061-01	Pass			13,877	37,400	Secondary & P removal	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballinode	D0435-01	Pass			503	1,000	Secondary & P removal	River		
Emyvale	D0346-01	Pass			474	2,150	Secondary & P removal	River		
Glaslough	D0347-01	Pass			817	1,850	Secondary with N & P removal	River		
Inniskeen	D0348-01	Pass[61]			238	1,800	Secondary & P removal	River		
Knockaconny	D0463-01	Pass			277	1,000	Secondary	River	✓	
Newbliss	D0458-01	Pass			804	1,000	Secondary & P removal	River		
Rockcorry	D0454-01	Pass			274	1,000	Secondary & P removal	River		
Scotstown	D0494-01	Pass			804	1,000	Secondary & P removal	River		
Smithboro	D0464-01	Pass			620	750	Secondary	River		

[61] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

County Offaly 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Banagher	D0141-01	Pass			2,540	2,500	Secondary	River		
Birr	D0109-01	Fail	Quality		10,363	12,000	Secondary & P removal	River		
Clara	D0142-01	Pass			5,167	9,000	Secondary & P removal	River	✓	
Edenderry	D0110-01	Pass[62]			4,511	9,500	Secondary & P removal	River		
Tullamore	D0039-01	Pass			20,080	45,000	Secondary & P removal	River	✓	Pass
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballinagar	D0362-01	Pass			578	1,000	Secondary & P removal	River		
Cloghan	D0369-01	Pass			461	800	Secondary & P removal	River		
Daingean	D0226-01	Pass[62]			461	1,200	Secondary	River		
Ferbane	D0147-01	Pass			1,958	3,184	Secondary	River	✓	
Kilcormac	D0225-01	Pass			1,384	2,000	Secondary	River		
Kinnity	D0363-01	Pass			265	750	Secondary	River		
Mucklagh	D0364-01	Pass			401	1,100	Secondary	River		
Rhode	D0227-01	Pass			370	1,000	Secondary & P removal	River		
Shinrone	D0365-01	Pass			920	1,000	Secondary	River		

[62] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

County Roscommon 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ballaghderreen	D0123-01	Pass			2,291	2,500	Secondary & P removal	River		
Boyle	D0121-01	Pass			3,594	6,000	Secondary & P removal	River		
Castlerea	D0118-01	Pass			2,959	4,590	Secondary & P removal	River		
Monksland	D0042-01	Pass[63]			8,731	14,381	Secondary & P removal	River		
Roscommon	D0116-01	Pass			6,748	9,550	Secondary & P removal	River	✓	
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballyleague	D0229-01	Pass			924	3,200	Secondary	Lake	✓	
Elphin	D0230-01	Pass			192	1,900	Secondary & P removal	River		
Frenchpark	D0376-01	Pass			122	1,500	Secondary & P removal	River		
Hodson Bay	D0377-01	Pass			1,883	3,000	Secondary	Lake	✓	
Roosky	D0408-01	Pass			624	2,600	Secondary & P removal	River		
Strokestown	D0228-01	Pass			1,106	3,060	Secondary & P removal	River		
Tarmonbarry	D0524-01	Pass			284	1,350	Secondary & P removal	River	✓	

[63] The discharge failed to meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

County Sligo 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ballymote	D0094-01	Fail	Quality		6,896	3,000	Secondary	River		
Coolaney	D0392-01	Pass			2,497	2,500	Secondary & P removal	River		
Sligo	D0014-01	Pass			27,408	50,000	Secondary, P removal & UV	Estuarine		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballysadare	D0095-01	Pass			1,313	4,500	Secondary & P removal	Estuarine		
Cliffoney	D0394-01	Pass			600	800	Secondary & P removal	River		
Collooney	D0093-01	Pass			1,045	1,400	Secondary & P removal	River		
Easkey	D0373-01	Pass			486	500	Secondary	River		
Enniscrone	D0102-01	Pass			3,600	5,000	Secondary	Coastal		
Grange	D0381-01	Fail	Quality	✓	1,285	280	Secondary	River		
Mullaghmore	D0239-01	No secondary			617	320	Primary	Coastal		
Rosses Point[64]	D0249-01	No secondary			1,679	1,500	Primary	Coastal		
Strandhill	D0107-01	Fail	Quality	✓	3,922	1,500	Secondary	Coastal		
Tubbercurry	D0092-01	Fail	Quality		1,190	1,400	Secondary	River		

[64] The waste water discharge licence for Rosses Point was withdrawn because Irish Water indicated that the waste water collection system is to be connected to the waste water works serving Sligo town. Rosses Point is included in this report because it is above the licensing threshold and was not connected to Sligo waste water treatment plant during 2015.

County Tipperary 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Ballina-Killaloe	D0189-01	Pass			3,475	4,500	Secondary & P removal	River		
Cahir	D0167-01	Pass			4,679	5,000	Secondary & P removal	River		
Carrick-on-Suir	D0148-01	Pass			8,924	11,000	Secondary with N & P removal	Estuarine	✓	
Cashel	D0171-01	Pass			10,916	9,000	Secondary & P removal	River		
Clonmel	D0035-01	Pass			32,144	80,000	Secondary with N & P removal	River	✓	Pass
Fethard	D0164-01	Pass			4,540	3,000	Secondary & P removal	River		
Nenagh	D0027-01	Pass			17,986	18,000	Secondary & P removal	River	✓	Pass
Roscrea	D0025-01	Pass			14,658	26,000	Secondary & P removal	River	✓	Pass
Templemore	D0190-01	Pass			2,146	6,000	Secondary & P removal	River		
Thurles	D0026-01	Pass			11,534	15,000	Secondary & P removal	River	✓	Pass
Tipperary	D0146-01	Pass			10,103	9,800	Secondary & P removal	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ardfinnan	D0311-01	Pass			1,303	1,100	Secondary & P removal	River		
Ballyclerihan	D0455-01	Pass			572	2,000	Secondary & P removal	River		
Borrisokane	D0326-01	Pass			1,217	1,500	Secondary & P removal	River		
Borrisoleigh	D0323-01	Pass			1,133	2,000	Secondary & P removal	River		
Cappawhite	D0440-01	Pass			236	1,750	Secondary & P removal	River		
Clogheen	D0453-01	Pass			521	1,000	Secondary & P removal	River		
Cloughjordan	D0475-01	Pass[65]			238	500	Secondary & P removal	River		

[65] The discharge persistently did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Holycross	D0478-01	Pass			1,198	600	Secondary & P removal	River	✓	
Killenaule	D0443-01	Pass			1,144	1,200	Secondary & P removal	River		
Kilsheelan	D0452-01	Pass			889	1,000	Secondary & P removal	River	✓	
Limerick Junction	D0457-01	Pass			232	500	Secondary	River		
Littleton	D0480-01	Pass			835	1,000	Secondary & P removal	River		
Mullinahone	D0456-01	Fail	Quality	✓	1,177	500	Secondary	River		
Newport	D0325-01	Pass[66]			1,825	1,900	Secondary	River		
Twomileborris	D0474-01	Pass			806	800	Secondary & P removal	River		

[66] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

County Waterford 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Dungarvan	D0017-01	Pass			24,552	25,000	Secondary	Coastal		
Lismore	D0176-01	Pass			2,221	3,000	Secondary	River		
Tramore	D0015-01	Pass			16,000	20,000	Secondary	Coastal		
Waterford City	D0022-01	Pass			86,671	190,600	Secondary	Estuarine		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ardmore	D0162-01	No secondary[67]			1,500	3,377	Preliminary then upgrade to Secondary	Coastal		
Cappoquin	D0272-01	No secondary			1,743	1500	Primary	Estuarine & River	✓	
Dunmore East	D0170-01	No secondary[68]			5,218	8,991	No treatment then upgrade to Secondary	Coastal		
Kilmacthomas	D0275-01	No secondary			1,500	600	Primary	River		
Portlaw	D0274-01	Fail	Quality		1,754	1,750+100	Secondary[69]	Estuarine	✓	
Ring – Helvick - Baile na nGall	D0358-01	Pass			954	1,600	Secondary	Coastal		
Stradbally	D0353-01	No secondary			800	240	Primary	River		
Tallow	D0273-01	No secondary			1,970	400+250	Primary[70]	River		

[67] Ardmore received only preliminary treatment for most of the year. A new waste water treatment plant with secondary treatment was provided at the end of 2015.
[68] Dunmore East received no treatment for most of the year. A new waste water treatment plant with secondary treatment was provided at the end of 2015.
[69] Waste water treatment at Portlaw is split between 2 plants. The larger plant, which caters for a population equivalent of 1,543, provides secondary treatment and did not meet the quality standards in 2015. The smaller plant, which caters for a population equivalent of 211, provides primary treatment.
[70] Tallow is served by 2 waste water treatment plants. The larger plant caters for approximately 87% of the area and provides primary treatment only. The smaller plant, which provides secondary treatment, met the effluent quality standards but an insufficient number of samples were taken.

County Westmeath 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Athlone	D0007-01	Pass			32,435	30,000	Secondary with N & P removal	River	✓	Pass
Killucan	D0100-01	Pass			3,130	2,500	Secondary & P removal	River		
Kinnegad	D0104-01	Pass			4,639	4,800	Secondary & P removal	River		
Moate	D0097-01	Pass			4,207	5,000	Secondary with N & P removal	River		
Mullingar	D0008-01	Pass			16,762	55,000	Secondary with N & P removal	River	✓	Pass
Rochfortbridge	D0101-01	Pass			2,519	4,500	Secondary with N & P removal	River		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballymore	D0509-01	Pass			610	500	Secondary & P removal	River		
Ballynacarrigy	D0482-01	Fail	Quality		347	600	Secondary & P removal	River		
Castlepollard	D0105-01	Pass			1,602	6,500	Secondary & P removal	River		
Clonmellon	D0271-01	Pass			462	1,500	Secondary & P removal	River		
Collinstown	D0485-01	Fail	Quality		226	1,200	Secondary & P removal	River		
Delvin	D0267-01	Pass			863	1,250	Secondary & P removal	River		
Kilbeggan	D0103-01	Pass			1,811	2,250	Secondary with N & P removal	River	✓	
Multyfarnham	D0510-01	Fail	Quality		550	700	Secondary & P removal	River		
Tyrellspass	D0099-01	Pass			1,009	2,000	Secondary & P removal	River		

County Wexford 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Bunclody	D0163-01	Pass			3,036	6,500	Secondary & P removal	River		
Courtown - Gorey	D0046-01	Fail[71]	Quality		18,548	10,000 + 6,500	Secondary	Coastal & River		
Enniscorthy	D0029-01	Fail[72]	Quality		17,023 + 980	16,000 + 1,000	Secondary	Estuarine	✓	Fail (Phosphorus)
Kilmuckridge	D0161-01	Pass			3,994	2,000	Secondary & P removal	River		
New Ross	D0036-01	Pass			12,841	16,000	Secondary	Estuarine		
Wexford Town	D0030-01	Pass			38,696	45,000	Secondary with N & P removal & UV	Estuarine	✓	Pass
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Ballaghkeen	D0398-01	Fail[73]	Quality		639	500+150	Secondary & P removal	River		
Ballycanew	D0402-01	No secondary			526	100	Primary	River		
Ballymurn	D0407-01	Pass			863	500	Secondary with N & P removal	River		
Blackwater	D0143-01	Pass			1,044	2,000	Secondary & P removal	River		
Bridgetown	D0231-01	Pass			716	2,000	Secondary with N & P removal	River		
Camolin	D0405-01	No secondary			872	600	Primary	River		

[71] Courtown-Gorey is served by 2 waste water treatment plants. The larger plant provides secondary treatment, serves a population equivalent of 9,416 and discharges to coastal water. This met the effluent quality standards. The smaller plant provides secondary treatment & P removal, serves a population equivalent of 9,132 and discharges to a river. This failed the effluent quality standards.

[72] Enniscorthy is served by 2 waste water treatment plants. The larger plant, which serves a population equivalent of 17,023, met the effluent quality standards. The smaller plant, serving a population equivalent of 980, persistently failed the BOD, COD and nutrient quality standards.

[73] Ballaghkeen is served by 2 waste water treatment plants. The larger plant, which caters for approximately 80% of the area, met the effluent quality standards. The smaller plant, serving a population equivalent of 124, did not meet the standards but appears to have sufficient capacity (i.e. the load is less than the reported capacity of the plant).

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Campile	D0409-01	No secondary			116	150	Primary	Estuarine		
Clonroche	D0404-01	Fail	Quality		745	650	Secondary	River		
Coolgreany	D0174-02	Pass			410	2,400	Secondary	River		
Duncannon	D0245-01	No secondary			1,200		No treatment	Estuarine		
Ferns	D0169-01	Fail[74]	Quality		1,590	2,000+100	Secondary & P removal	River		
Fetherd-on-Sea	D0241-01	No secondary			1,440	150	Primary	Coastal		
Kilmore Quay	D0232-01	No secondary			1,558		No treatment	Coastal		
Rosslare Harbour	D0165-01	Pass			2,800	9,383	Secondary	Coastal		
Rosslare Strand	D0173-01	Pass			6,916	8,500	Secondary	Coastal		
Tagoat	D0397-01	Pass			460	800	Secondary with N & P removal	River		

Taghmon was listed in previous assessments but is no longer included as discharges from this area ceased permanently in February 2015 and waste water from Taghmon is now conveyed to Wexford Town for treatment.

[74] Ferns is served by 2 waste water treatment plants. The larger plant, which provides secondary treatment and P removal, did not meet the effluent quality standards. The smaller plant, which serves a population equivalent of approximately 280, provides primary treatment only.

County Wicklow 2015

Urban area	Reg. No.	BOD & COD compliance	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive area	Nutrient quality compliance
Large urban areas subject to the EU Directive's requirements to provide secondary treatment and meet BOD and COD effluent quality standards.										
Arklow	D0006-01	No secondary			16,261		No treatment	Estuarine		
Baltinglass	D0089-01	Pass			2,940	3,000	Secondary & P removal	River		
Blessington	D0063-01	Pass			6,948	6,000	Secondary & P removal	Lake		
Enniskerry	D0088-01	Pass			4,171	6,000	Secondary & P removal	River		
Greystones	D0010-01	Pass			41,284	40,000	Secondary	Coastal		
Kilcoole	D0087-01	Pass			2,938	3,000	Secondary & P removal	River		
Rathdrum	D0086-01	Pass			2,663	3,500	Secondary & P removal	River		
Wicklow	D0012-01	Pass			17,770	34,000	Secondary	Coastal		
Smaller urban areas below the threshold for mandatory compliance with the EU Directive's effluent quality standards. Standards used as a guide to assess plant performance.										
Aughrim	D0222-01	Pass			1,708	1,200	Secondary	River		
Avoca	D0411-01	No secondary			1,694		No treatment	River		
Ballinaclash	D0412-01	Pass			269	300	Secondary & P removal	River		
Carnew	D0064-01	Pass			898	2,300	Secondary	River		
Dunlavin	D0476-01	Fail[75]	Quality		782	2,400	Secondary & P removal	River		
Kilpedder	D0416-01	Pass[76]			372	600	Secondary	River		
Laragh	D0415-01	Pass			1,082	1,000	Secondary & P removal	River		
Newcastle	D0410-01	Pass			533	600	Secondary	River		
Redcross	D0414-01	Pass			877	800	Secondary	River		
Roundwood	D0223-01	Pass			1,550	1,600	Secondary & P removal	River		
Tinahely	D0221-01	Pass			1,727	1,200	Secondary	River		

[75] Discharges from an old waste water treatment plant with secondary treatment persistently did not meet the effluent quality standards in 2015. This plant was replaced by a new waste water treatment plant in September 2015 and discharges from the new plant met the effluent quality standards.
[76] The discharge did not meet the effluent quality standard for suspended solids. While the Directive sets a limit for this parameter it notes that the requirement is optional.

Appendix B: Areas non-compliant with effluent quality standards.

29 areas failed to meet the mandatory effluent quality standards specified in the 1991 Urban Waste Water Treatment Directive. The table shows the estimated date to achieve compliance (as provided by Irish Water) at these areas and identifies the 9 areas which met the standards in 2014 but failed in 2015, indicating a deterioration in performance.

County	Urban area	Estimated date to compliance	Comment
*Secondary treatment required by the Directive was not provided throughout 2015 and therefore effluent could not meet the mandatory BOD / COD quality standards. The Directive requires secondary treatment by **31/12/2005** or, in the case of discharges from areas > 15,000 p.e., by **31/12/2000**.*			
Cork	Cobh	2019	
Cork	Passage-Monkstown	2018	
Cork	Ringaskiddy-Crosshaven-Carrigaline	2017	Area is greater than 15,000 p.e.
Donegal	Bundoran	2018	
Donegal	Convoy	2018	
Donegal	Lifford	2021	
Galway	Clifden	2016	New secondary treatment plant completed during 2015
Wicklow	Arklow	2020	Area is greater than 15,000 p.e.
Secondary treatment and more stringent treatment (i.e. nutrient reduction) required by the Directive was not provided and therefore effluent could not meet the mandatory BOD / COD and nutrient quality standards.			
Cork	Youghal	2017	Nitrogen removal required
Donegal	Killybegs	2018	
Secondary treatment provided but effluent failed the mandatory BOD / COD quality standards.			
Carlow	Tullow	2020	
Clare	Ennistymon	>2021	Passed mandatory quality standards in 2014
Clare	Lahinch	>2021	Passed mandatory quality standards in 2014
Clare	Shannon	2020	
Galway	Mountbellew	2019	
Leitrim	Drumshanbo	2017	
Limerick	Dromcollogher	2018	
Limerick	Hospital	>2021	
Louth	Ardee	2020	Passed mandatory quality standards in 2014
Louth	Blackrock	2016	Passed mandatory quality standards in 2014
Meath	Stamullen	>2021	
Offaly	Birr	2016	Passed mandatory quality standards in 2014
Sligo	Ballymote	>2021	Passed mandatory quality standards in 2014
Wexford	Courtown Gorey	2016	Passed mandatory quality standards in 2014

County	Urban area	Estimated date to compliance	Comment
*Secondary treatment provided but more stringent treatment (i.e. nutrient reduction) not provided. Effluent failed the mandatory BOD / COD and nutrient quality standards. Directive requires more stringent treatment by **31/12/1998**.*			
Cork	Carrigtwohill	2016	Passed BOD / COD quality standards in 2014. Phosphorus removal required.
Dublin	Dublin (Ringsend)	2020	Nitrogen and phosphorus removal required
Laois	Portarlington	2017	Passed BOD / COD quality standards in 2014. Phosphorus removal required
Wexford	Enniscorthy	2019	Phosphorus removal required
*Secondary treatment provided but more stringent treatment (i.e. nutrient reduction) not provided. Effluent passed the BOD / COD quality standards but failed the nutrient quality standard. Directive requires more stringent treatment by **31/12/1998**.*			
Cork	Cork City	Not available	Nitrogen removal required.

Appendix C: Compliance with nutrient standards.

The most widespread water quality problem in Ireland continues to be elevated concentrations of nutrients, which can lead to eutrophication. The main nutrients of concern are phosphorus, which tends to drive eutrophication in freshwaters, and nitrogen which tends to drive eutrophication in coastal waters. Waste water discharges are a key source of such nutrients.

In order to protect waters at risk of eutrophication and prevent the accumulation of excessive nutrient loads the Urban Waste Water Treatment Directive requires a more stringent level of waste water treatment for certain discharges. As such nutrient reduction, in addition to secondary treatment, is required at large towns and cities discharging directly to sensitive areas[77]. There were **34** such large towns and cities in Ireland where the requirement for more stringent treatment applied in 2015.

The Directive also sets limits on the concentration of phosphorus and nitrogen in effluent discharged to sensitive areas from these large towns and cities. As the receiving waters may not be equally vulnerable to both phosphorus and nitrogen the Directive specifies that one or both nutrient parameters may apply, depending on the local situation. The EPA is responsible for determining during the waste water discharge licensing process which nutrient parameter(s) shall apply.

The following table shows compliance in 2015 with the Directive's effluent quality standards for nutrients in waste water discharged directly to sensitive areas from towns and cities with a population equivalent of over 10,000 p.e.

Compliance with nutrient quality standards in 2015 for discharges to sensitive areas

County	Urban area	Phosphorus compliance 2015	Reason for fail	Nitrogen compliance 2015	Reason for fail
Carlow	Carlow town	Pass		Refer to note 78	
Carlow	Muinebheag / Leighlinbridge	Pass		Refer to note 78	
Cavan	Cavan	Pass		Refer to note 78	
Clare	Ennis North	Pass		Refer to note 78	
Cork	Carrigtwohill	Fail	Quality	Refer to note 78	
Cork	Cork City	Refer to note 78		Fail	Quality
Cork	Fermoy	Pass		Refer to note 78	
Cork	Midleton	Refer to note 78		Pass	
Cork	Youghal	Refer to note 78		Fail	No results[79]

[77] This applies to towns and cities with a population equivalent greater than 10,000 discharging to sensitive areas. Sensitive areas are listed in national legislation in S.I. No. 48 of 2010.
This report addresses urban areas reported as discharging directly to sensitive areas. Urban areas discharging to the catchments of sensitive areas, where they may have an impact on those areas, are covered by Article 5(5) of the Directive. Such discharges are not dealt with here but will be covered in subsequent reports using the findings of the national review of sensitive areas carried out in 2016.
[78] In accordance with S.I. No. 48 of 2010, and taking into account the local situation, the EPA determined that this parameter does not apply.
[79] No results submitted however as no treatment is provided at Youghal it cannot meet the quality standard for nitrogen.

County	Urban area	Phosphorus compliance 2015	Reason for fail	Nitrogen compliance 2015	Reason for fail
Donegal	Killybegs[80]	Fail	Quality	Fail	Quality
Dublin	Dublin (Ringsend)	Fail	Quality	Fail	Quality
Fingal	Swords	Pass		Pass	
Kerry	Tralee	Pass		Pass	
Kildare	Athy	Pass		Refer to note 78	
Kildare	Leixlip	Pass		Refer to note 78	
Kildare	Osberstown	Pass		Refer to note 78	
Kilkenny	Kilkenny City	Pass		Refer to note 78	
Laois	Portarlington	Fail	Quality	Refer to note 78	
Laois	Portlaoise	Pass		Refer to note 78	
Longford	Longford	Pass		Refer to note 78	
Louth	Dundalk	Pass		Pass	
Mayo	Castlebar	Pass		Refer to note 78	
Meath	Navan	Pass		Refer to note 78	
Monaghan	Carrickmacross	Pass		Refer to note 78	
Monaghan	Castleblaney	Pass		Refer to note 78	
Offaly	Tullamore	Pass		Refer to note 78	
Tipperary	Clonmel	Pass		Refer to note 78	
Tipperary	Nenagh	Pass		Refer to note 78	
Tipperary	Roscrea	Pass		Refer to note 78	
Tipperary	Thurles	Pass		Refer to note 78	
Westmeath	Athlone	Pass		Refer to note 78	
Westmeath	Mullingar	Pass		Refer to note 78	
Wexford	Enniscorthy[81]	Fail	Quality	Refer to note 78	
Wexford	Wexford town	Pass		Pass	

The EPA recently carried out a review of the nutrient parameters applicable at each large urban area, taking into account the local situation. This resulted in a change to parameters that apply at some areas when compared to nutrient compliance assessments published in previous Urban Waste Water reports.

The treatment provided at **Ennis North**, **Dundalk** and **Tralee** is reported as secondary treatment and this does not meet the Directive's requirement for waste water to be subject to

[80] Pending a determination by the EPA on the appropriate nutrient parameter(s) that shall apply a precautionary approach is taken whereby both are assumed to apply on a provisional basis.

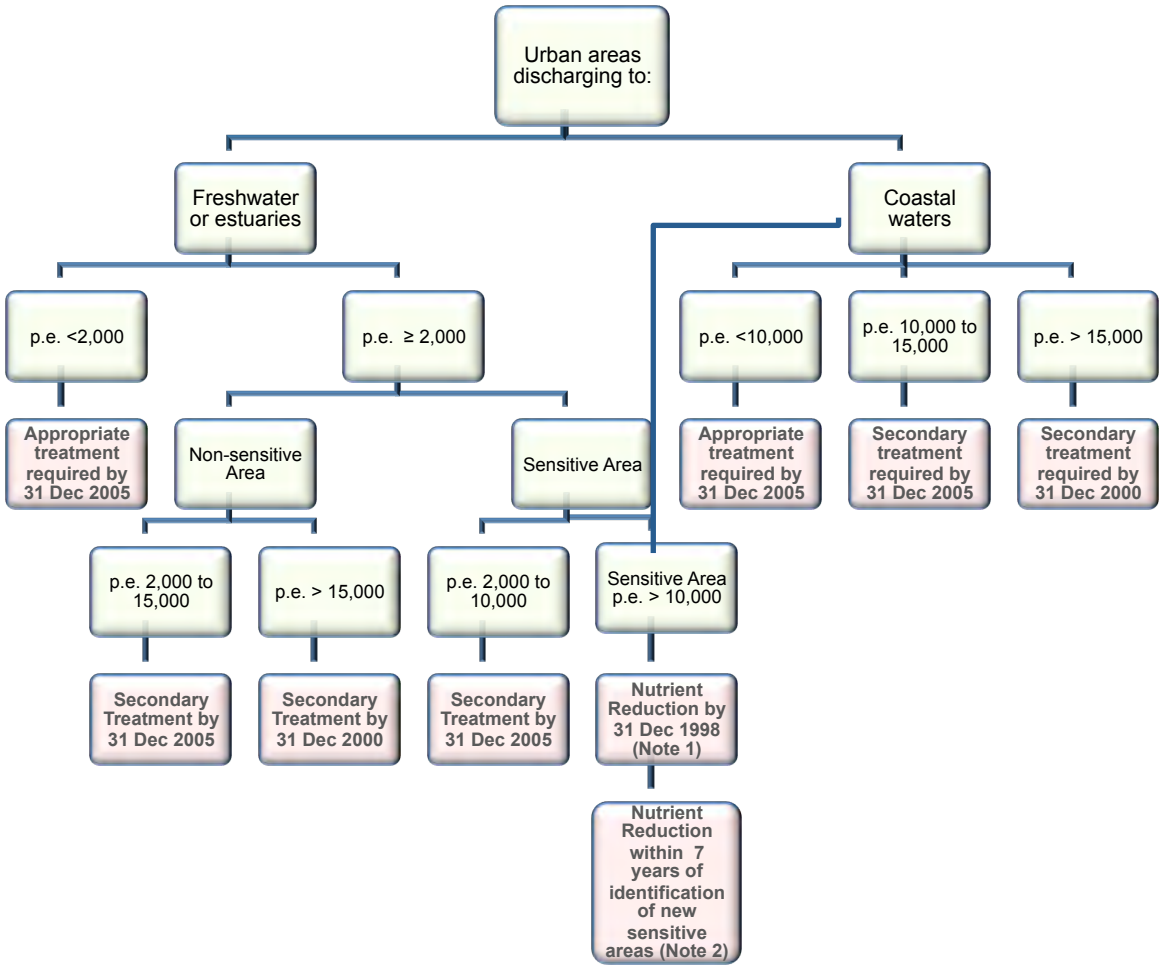
[81] Waste water treatment at Enniscorthy is split between two treatment plants which both discharge to a sensitive area. The primary discharge met the relevant nutrient quality standard but the secondary discharge, which accounts for approximately 5% of the total waste water load, failed the nutrient quality standard.

‘more stringent treatment’ than secondary treatment. However, the effluent monitoring results show that effluent from these 3 areas met the applicable nutrient quality standards specified in the Directive in 2015

Mallow was reported above the 10,000 p.e. threshold for nutrient requirements in 2014 but reported below the threshold in 2015 and therefore it is not included in the 2015 assessment. Carrigtwohill and Portarlington were reported below the 10,000 p.e. threshold in 2014 but above this threshold in 2015.

Appendix D: Summary of treatment required by the Directive.

The waste water treatment required by the 1991 Urban Waste Water Treatment Directive is summarised below.



Summary

- **Secondary treatment** is mandatory at urban areas ≥ 2,000 p.e. discharging to freshwater or estuaries and at areas ≥ 10,000 p.e. discharging to coastal waters.
- More stringent treatment than secondary treatment (i.e. **nutrient reduction**) is required at urban areas > 10,000 p.e. discharging to sensitive areas.
- **Appropriate treatment**[82] is required at urban areas below the thresholds in bullet point 1.

Note 1. More stringent treatment than secondary treatment (i.e. nutrient reduction) required.

Note 2. The Directive requires Member States to review the identification of sensitive areas at regular intervals. Areas identified as sensitive following such reviews must meet the Directive requirements on the provision of more stringent treatment within seven years.

[82] Appropriate treatment means treatment of urban waste water by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of the 1991 Urban Waste Water Treatment Directive and other Community Directives.

Appendix E. Areas with no treatment or preliminary treatment only.

The 43 areas discharging untreated waste water at the end of 2015 and the estimated timeframes for provision of treatment at these areas are listed below.

County	Urban Area	Estimated date for treatment[83]
6 Areas with a population equivalent greater than 10,000		
Cork	Cobh	2019
Cork	Ringaskiddy / Crosshaven / Carrigaline	2017
Cork	Youghal	2017
Donegal	Bundoran	2018
Donegal	Killybegs	2018
Wicklow	Arklow	2020
5 Areas with a population equivalent between 2,000 and 10,000		
Clare	Kilkee	2019
Clare	Kilrush	2019
Cork	Passage West / Monkstown	2018
Cork	Whitegate/Aghada	2019
Dublin (Fingal)	Rush	2018
19 Areas with a population equivalent between 500 and 2,000		
Clare	Ballyvaughan	2019
Clare	Clarecastle	2019
Clare	Liscannor	2019
Cork	Ballycotton	2019
Cork	Castletownbere	2019
Cork	Ringaskiddy Village	2017
Donegal	Falcarragh	2019
Donegal	Kilcar	2019
Donegal	Moville	2020
Donegal	Ramelton	2020
Donegal	Rathmullan	2020
Donegal	St Johnston	2016
Galway	Carraroe	2019
Galway	Kinvara	2017
Mayo	Belmullet	2018
Mayo	Killala	2018
Wexford	Duncannon	2019
Wexford	Kilmore Quay	2019
Wicklow	Avoca	Not available

[83] Dates provided to the EPA by Irish Water in July 2016.

County	Urban Area	Estimated date for treatment
13 Areas with a population equivalent below 500		
Cork	Castletownshend	2019
Cork	Inchigeelagh	2019
Cork	Timoleague	2018
Donegal	Burtonport	2019
Donegal	Coolatee Housing Scheme	Not available
Donegal	Kerrykeel	2019
Dublin (Fingal)	Howth (Doldrum Bay)[84]	Not available
Galway	Ahascragh	2019
Galway	Roundstone	2019
Galway	Spiddal	2019
Louth	Omeath	2020
Wexford	Arthurstown	2019
Wexford	Ballyhack	2019

Dates are not available for 3 areas because the options to address the provision of treatment at these areas are under consideration by Irish Water.

[84] This is a secondary discharge catering for approximately 0.005% of the total waste water load generated within the area covered by the Ringsend waste water discharge licence.

Appendix F. Impacts and risks associated with waste water discharges.

Appendix F.1. 45 waste water works with discharges that are linked, with a high degree of probability, to polluted river stations.

County	Urban Area / Waste Water Works	River	River Code	Water Framework Directive Status
Cavan	Cavan	Cavan	36C020300	Poor
Clare	Kilmihil	Kilmihil Stream	28K020200	Poor
Clare	Lisdoonvarna	Aille (Clare)	28A010300	Poor
Cork	Buttevant	Awbeg (Buttevant)	18A050700	Poor
Cork	Charleville	Charleville Stream	24C020500	Poor
Donegal	Ballybofey / Stranorlar	Finn (Donegal)	01F010800	Moderate
Donegal	Kilmacrennan	Lurgy	39L020300	Moderate
Donegal	Milford	Maggy's Burn	39M010300	Poor
Donegal	Moville	Bredagh	40B020400	Bad
Donegal	Raphoe	Swilly Burn	01S030200	Poor
Dublin Meath	Ringsend	Tolka Liffey Broadmeadow	09T011000 09T011100 09L012360 08B020500	Poor Moderate Poor
Dublin	Shanganagh	Kill of the Grange Stream	10K020200 10K020500	Poor
Galway	Ahascragh	Ahascragh	26A010400	Moderate
Galway	Athenry	Clarinbridge	29C020300 29C020400 29C020500	Poor
Galway	Mountbellew	Castlegar	26C030200	Poor
Galway	Moycullen	Ballycuirke	30B140100	Poor
Kildare	Coill Dubh	Slate	14S010020	Poor
Kildare	Kildare Town	Tully Stream	14T020200 14T020300 14T020390	Poor
Kildare	Osberstown	Liffey	09L011200	Moderate
Kilkenny	Stonyford	King's (Kilkenny)	15K020900	Moderate
Laois	Portlaoise	Ratheven Stream	14R050300	Poor
Leitrim	Drumshanbo	Drumshanbo	26D050300	Poor
Limerick	Dromcollagher	Ahavarragha	24A020400	Poor
Limerick	Rathkeale	Deel (Newcastlewest)	24D021300	Poor

County	Urban Area / Waste Water Works	River	River Code	Water Framework Directive Status
Longford	Granard	Rhine	26R040200	Poor
Mayo	Balla	Loughnaminoo	34L040200	Poor
Mayo	Ballindine	Ballindine	30B030200	Poor
Mayo	Castlebar	Castlebar	34C010180 34C010200	Moderate Poor
Mayo	Kilkelly	Trimoge	34T010200	Moderate
Mayo	Knock	Yellow (Knock)	34Y020250	Moderate
Meath[85]	Mullagh	Mullagh Lough Stream	07M060400	Moderate
Monaghan	Carrickmacross	Proules	06P010300	Poor
Monaghan	Monaghan	Shambles	03S010500	Poor
Offaly[86]	Roscrea	Little Brosna	25L020400	Moderate
Roscommon	Roscommon	Hind Jiggy (Hind)	26H010300 26H010400 26H010500 26J010090	Poor
Roscommon	Strokestown	Strokestown	26S080100	Moderate
Sligo[87]	Charlestown	Charlestown	34C280100	Poor
Sligo	Tubbercurry	Tubbercurry	34T020050 34T020200 34T030400	Poor
Tipperary	Borrisoleigh	Borrisoleigh	16B060600	Moderate
Tipperary	Templemore	Suir	16S020300	Moderate
Tipperary	Tipperary Town	Ara	16A030440	Moderate
Waterford	Kilmacthomas	Mahon	17M010200	Poor
Westmeath	Mullingar	Brosna	25B090040 25B090100	Poor
Wexford	Courtown/Gorey	Banoge	11B020200	Poor
Wexford	Taghmon	Duncormick	13D010200	Poor

[85] Mullagh is in Co. Cavan but the impacted river station is in Co. Meath.
[86] Roscrea is in Co. Tipperary but the impacted river station is in Co. Offaly.
[87] Charlestown is in Co. Mayo but the impacted river station is in Co. Sligo.

Appendix F.2. 6 areas where waste water discharges are linked with poor quality bathing waters.

Waste water discharges were considered contributing factors to the poor quality classification of the following bathing waters in 2015.

County	Urban Area	Bathing Water
Cork	Youghal	Youghal Front Strand Beach[88]
Dublin (Dublin City)	Dublin City (Ringsend)	Merrion Strand
Dublin (Fingal)	Balbriggan - Skerries	Loughshinny Beach
Dublin (Fingal)	Rush	Rush, South Beach[88]
Galway	Galway City	Ballyloughane Beach[88]
Wexford	Duncannon	Duncannon Beach[88]

Appendix F.3. 16 areas where improvements to waste water discharges were required at the end of 2015 to protect fresh water pearl mussels.

County	Urban Area
Carlow	Hacketstown
Carlow	Tiknock
Cork	Ballyclough
Cork	Boherbue
Cork	Castletownroche
Cork	Cecilstown
Cork	Dromahane
Cork	Inchigeelagh
Cork	Kanturk
Cork	Kealkill
Cork	Lombardstown
Cork	Mallow
Cork	Millstreet
Donegal	Glenties
Kerry	Kilgarvan
Wicklow	Aughrim

[88] This bathing water was also classified as poor in 2014.

Appendix G. Areas with non-compliant collection systems.

13 large urban areas subject to a waste water discharge licence where the waste water collection system is considered non-compliant with the requirements of Article 3 of the Urban Waste Water Treatment Directive.

County	Urban Area	Estimated date to compliance
Cavan	Cavan	2018
Cork	Ballincollig	2021
Cork	Cork City	2022
Cork	Fermoy	2020
Cork	Mallow	2018
Cork	Midleton	2020
Cork	Ringaskiddy-Crosshaven-Carrigaline	2017
Kildare	Osberstown	2020
Roscommon	Roscommon	2019
Tipperary	Roscrea	2022
Tipperary	Thurles	2022
Westmeath	Athlone	2020
Wexford	Enniscorthy	2025

Appendix H: Sewage sludge.

Sewage sludge is a by-product of the waste water treatment process and includes biosolids removed during treatment as well as residual organic matter from the treatment process. Irish Water's waste water treatment plants produced a collective total of **58,387** tonnes of sewage sludge (dry solids) during 2015. The destination routes for the sludge produced nationally in 2015 and the quantity of sewage sludge treated per county are summarised below.

Destination routes for the national load of sewage sludge in 2015

	Agriculture	Composting	Landfill	Other[89]	Total
Tonnes dry solids	46,697 (80%)	10,946 (18.7%)	94 (0.2%)	650 (1.1%)	**58,387**

Sewage sludge treated per county in 2015

County	Tonnes dry solids/year
Carlow	1,322.93
Cavan	1,062.52
Clare	426.02
Cork	5,313.95
Donegal	556.86
Dublin	19,188.05
Galway	3,019.45
Kerry	1,313.02
Kildare	3,909.45
Kilkenny	1,368.83
Laois	844.00
Leitrim	200.10
Limerick	3,170.40
Longford	1,303.40
Louth	1,730.08
Mayo	1,357.84
Meath	1,824.25
Monaghan	995.83
Offaly	1,451.88
Roscommon	675.43
Sligo	516.17
Tipperary	1,309.50
Waterford	1,226.16
Westmeath	1,188.40
Wexford	1,834.21
Wicklow	1,278.60
Total	**58,387.33**

[89] This refers to 552 tonnes held in storage at the end of 2015, 95 tonnes used overseas in cement production and 3 tonnes used in incineration.

AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL
Tá an Ghníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaol a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialú: *Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.*

Eolas: *Soláthraímid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírithe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.*

Tacaíocht: *Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaol atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaol inbhuanaithe.*

Ár bhFreagrachtaí

Ceadúnú
Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaol:
- saoráidí dramhaíola *(m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola)*;
- gníomhaíochtaí tionsclaíocha ar scála mór *(m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta)*;
- an diantalmhaíocht *(m.sh. muca, éanlaith)*;
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe *(OGM)*;
- foinsí radaíochta ianúcháin *(m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíocha)*;
- áiseanna móra stórála peitril;
- scardadh dramhuisce;
- gníomhaíochtaí dumpála ar farraige.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil
- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdaráis áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhíriú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúchán.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a ídíonn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

Bainistíocht Uisce
- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchriosacha agus cósta na hÉireann, agus screamhuiscí; leibhéil uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaol
- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil *(m.sh. tuairisciú tréimhsiúil ar staid Chomhshaol na hÉireann agus Tuarascálacha ar Tháscairí)*.

Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn
- Fardail agus réamh-mheastacháin na hÉireann maidir le gáis cheaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

Taighde agus Forbairt Comhshaoil
- Taighde comhshaoil a chistiú chun brúnna a shainaithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

Measúnacht Straitéiseach Timpeallachta
- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaol in Éirinn *(m.sh. mórphleananna forbartha)*.

Cosaint Raideolaíoch
- Monatóireacht a dhéanamh ar leibhéil radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Faisnéis Inrochtana agus Oideachas
- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaol ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaol *(m.sh. Timpeall an Tí, léarscáileanna radóin)*.
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosc agus a bhainistiú.

Múscailt Feasachta agus Athrú Iompraíochta
- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil
Tá an ghníomhaíocht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:
• An Oifig um Inmharthanacht Comhshaoil
• An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
• An Oifig um Fianaise is Measúnú
• An Oifig um Cosaint Raideolaíoch
• An Oifig Cumarsáide agus Seirbhísí Corparáideacha
Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

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