Urban Waste Water Treatment in 2017

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.

National Environmental Enforcement
- 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.

Water Management
- Monitoring and reporting on the quality of rivers, lakes, transitional and coastal waters of Ireland and groundwaters; measuring water levels and river flows.
- National coordination and oversight of the Water Framework Directive.
- Monitoring and reporting on Bathing Water Quality.

Monitoring, Analysing and Reporting on the Environment
- Monitoring air quality and implementing the EU Clean Air for Europe (CAFÉ) Directive.
- 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)*.

Regulating Ireland's Greenhouse Gas Emissions
- Preparing Ireland's greenhouse gas inventories and projections.
- Implementing the Emissions Trading Directive, for over 100 of the largest producers of carbon dioxide in Ireland.

Environmental Research and Development
- 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 Radiation Protection and Environmental Monitoring
- 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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An Ghníomhaireacht um Chaomhnú Comhshaoil

P.O. Box 3000, Johnstown Castle Estate, County Wexford, Ireland, Y35 W821

Telephone: +353 53 916 0600

Email: info@epa.ie

Website: www.epa.ie

LoCall: 1890 33 55 99

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Quality of treatment

- Waste water treatment at 28 of Ireland's 179 large urban areas failed to meet European Union standards.
- Raw sewage from the equivalent of 88,000 people in 38 towns and villages flows into the environment every day.
- Coming into contact with inadequately treated waste water poses a health risk.

Risks to the environment

- Waste water is one of the main threats to the quality of our rivers, lakes and estuaries.
- Waste water contributed to poor quality bathing water at six beaches in 2017.
- Treatment at 13 areas must improve to protect critically endangered freshwater pearl mussels.

Action required

- Irish Water must increase the pace of investment to upgrade deficient waste water treatment systems, prevent pollution and avoid financial penalties.
- Continue improving how treatment systems are operated, managed and maintained.
- Address information shortfalls on the risks to shellfish, and the condition of public sewers.

Key progress since 2016

- The number of priority areas where treatment needs to improve is down from 148 to 132.
- Discharges of raw sewage were eliminated from six areas.
- Improvements were completed to protect two bathing waters that were poor quality in 2017.

1 Introduction

This is a report about urban waste water treatment in Ireland during 2017. It is based on the EPA's assessment of monitoring information provided by Irish Water, and on the enforcement activities carried out by the EPA. The report focuses on the main issues that Ireland needs to address to prevent waste water from harming our environment.

Why must we treat waste water?

The objective of waste water treatment is to collect the waste water generated within our communities, remove the polluting material, and then release the treated water safely back into the environment. Without such treatment, the waste water we produce would pollute our waters and create a health risk.

Who does what?

- Irish Water is the national water utility, responsible for the collection, treatment and discharge of urban waste water.
- The Environmental Protection Agency (EPA) is the environmental regulator of Irish Water. We issue and enforce authorisations for waste water discharges.
- The Commission for Regulation of Utilities is the economic regulator. It ensures that Irish Water's revenue is spent efficiently and effectively to improve services.

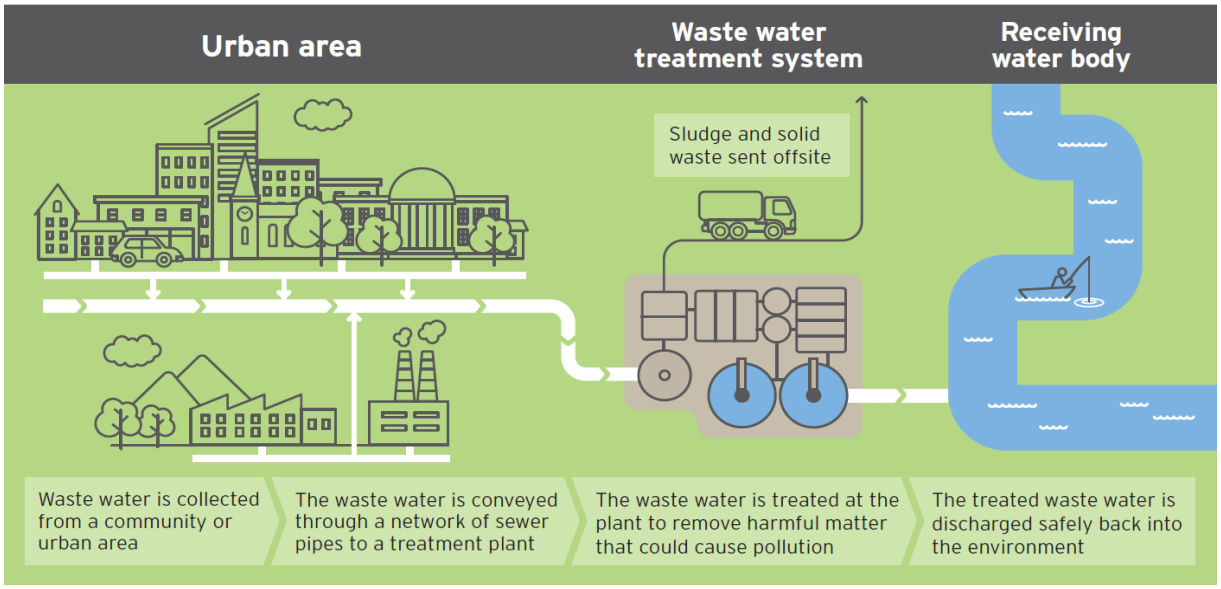
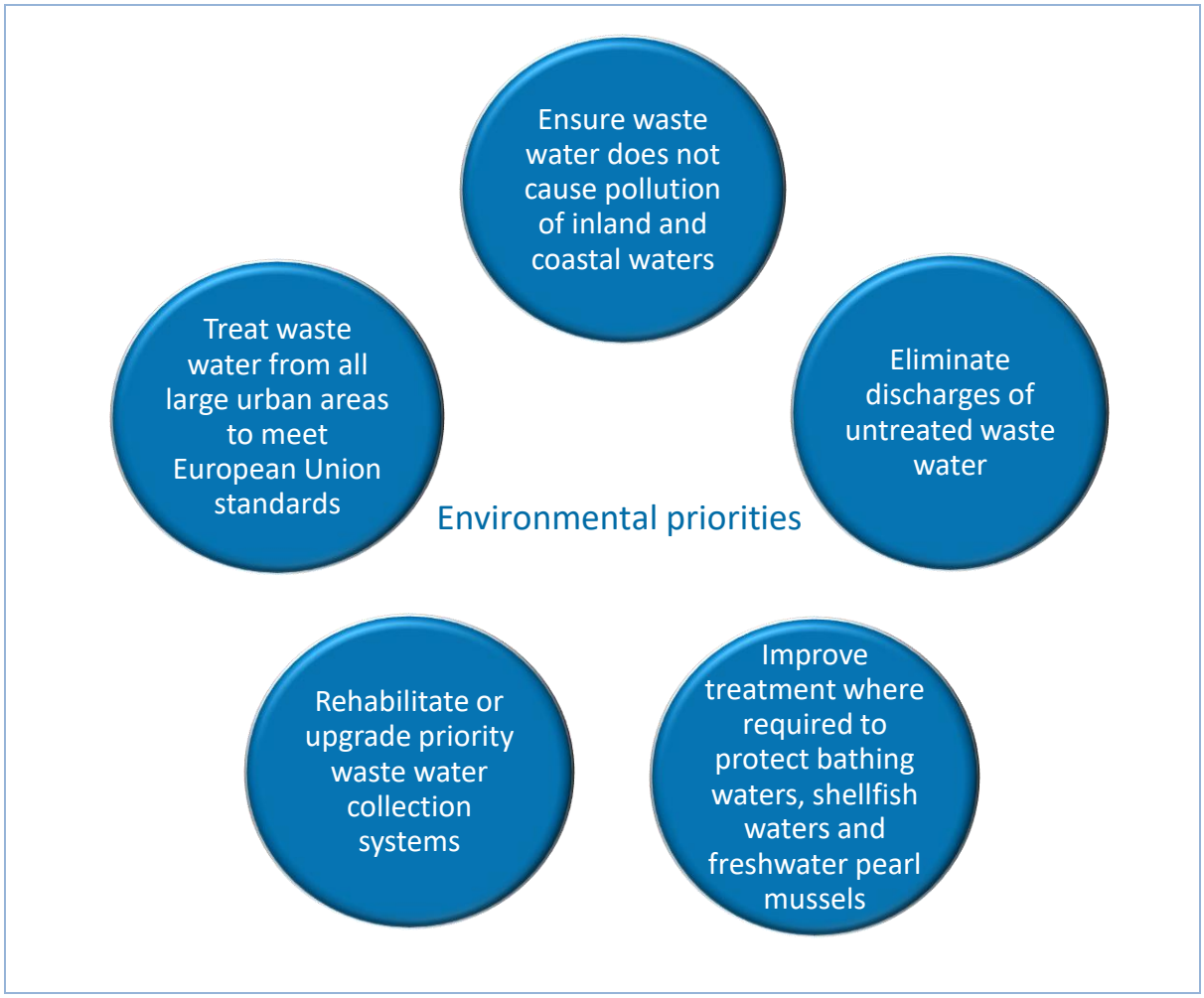


Figure 1: Waste water treatment

What are our environmental priorities?

There are deficiencies in many public sewers and treatment plants, due to a legacy of underinvestment. Consequently, waste water from some areas discharges into the environment without adequate treatment. It will not be possible to fix all these problems in the short term, and therefore Ireland must ensure that the resources that are available are directed where they are most needed. We have identified the following as the most pressing issues.



What actions are needed?

Upgrade deficient waste water treatment systems and continue to improve how existing systems are operated and managed to get the best performance from them.

Irish Water should improve treatment at the **132** urban areas listed in *Appendix A* to achieve the environmental priorities listed above.

2 Waste water treatment and effluent quality

Waste water from 1.1 million homes throughout Ireland is collected in approximately 30,000 kilometres[1] of public sewers and treated at 1,100 waste water treatment plants. Table 2 shows the level of treatment provided for the national waste water load.

Table 1: Level of treatment provided for the national waste water load

No treatment	Primary treatment	Secondary treatment	Nutrient removal
2%	1%	67%	30%
⇨	Effluent quality improves		⇨

You can find more information on technical terms used in this report, such as a description of the levels of treatment, and the definition of a large urban area (referred to below), in the *Glossary and background information* on pages 25 to 28.

2.1 Compliance with European Union standards

The European Union's *Urban Waste Water Treatment Directive* sets standards for the treatment of urban waste water at large urban areas, in order to protect the environment from the adverse effects of waste water discharges. There were 179 large urban areas in Ireland in 2017 and 151 of these met the standards. This means that 84% of large urban areas met the standards in 2017, up from 78% in 2016.

In summary, the Directive's treatment standards are:

1. Waste water from all large urban areas must receive secondary treatment and meet certain basic effluent quality standards before it is discharged safely back into the environment.
2. Waste water discharging to sensitive areas must receive a more stringent level of treatment to remove nutrients, and must comply with additional effluent quality standards for phosphorus and/or nitrogen. These extra requirements, which apply

[1] Presentation by Irish Water to the Joint Oireachtas Committee on 12 January 2017.

at 41 towns and cities, are necessary to reduce the nutrients that could lead to undesired growth of algae and plants in sensitive areas.

The Directive was adopted in 1991 and the final deadline to comply with the treatment standards was 2005. A total of 28 large urban areas did not meet the standards in 2017. The non-compliant areas account for over half (57%) of the national waste water load collected in all large urban areas.

The map on page 9 shows the non-compliant areas and there is further information in *Appendix B* on the standards that each of these areas did not meet.

The extent of the non-compliances varied across different urban areas. At some towns, such as Cobh and Arklow, waste water received no treatment throughout the year. At other areas, such as Ballybofey-Stranorlar, waste water met the treatment standards for most of the year, but occasional problems resulted in one or two effluent samples failing the standards.

Why did some areas not meet the standards?

The underlying problem at most of these areas is a lack of treatment infrastructure, for example:

- There were no secondary treatment plants provided at six of these areas.
- Nine areas, including Dublin and Cork, did not have the more stringent treatment required to remove phosphorous and/or nitrogen.

There are ageing treatment plants in other areas, that were designed and built for a time when the population and volume of waste water was smaller. These no longer have sufficient capacity, or the long-term resilience needed, to consistently treat waste water to the required standards. In one case, the non-compliance was due to equipment breakdown within a plant that has sufficient capacity and should normally meet the standards.

The European Commission is taking Ireland to the Court of Justice of the European Union in 2018 because of Ireland's continued failure to treat waste water adequately. This matter is now before the court.

What needs to happen?

Irish Water must complete all the infrastructure and operational improvements needed to consistently treat our waste water to European Union standards, and ensure Ireland meets its obligations under the Directive. Treating waste water to the required standards is important to protect our environment from the adverse effects of waste water discharges.

The following are examples of how treatment at large urban areas is improving:

- The number of areas that did not meet the Directive's treatment and effluent quality standards reduced from 40 in 2016 to 28 in 2017.
- Youghal, which was one of the six large areas without secondary treatment in 2017, is now connected to a new waste water treatment plant.
- Irish Water upgraded Dundalk waste water treatment plant in 2018 to meet the Directive's requirements on more stringent treatment.

While there has been progress, Ireland needs to fix the problems at the areas with inadequate treatment at a much faster pace.

Figure 2: New waste water treatment plant at Youghal

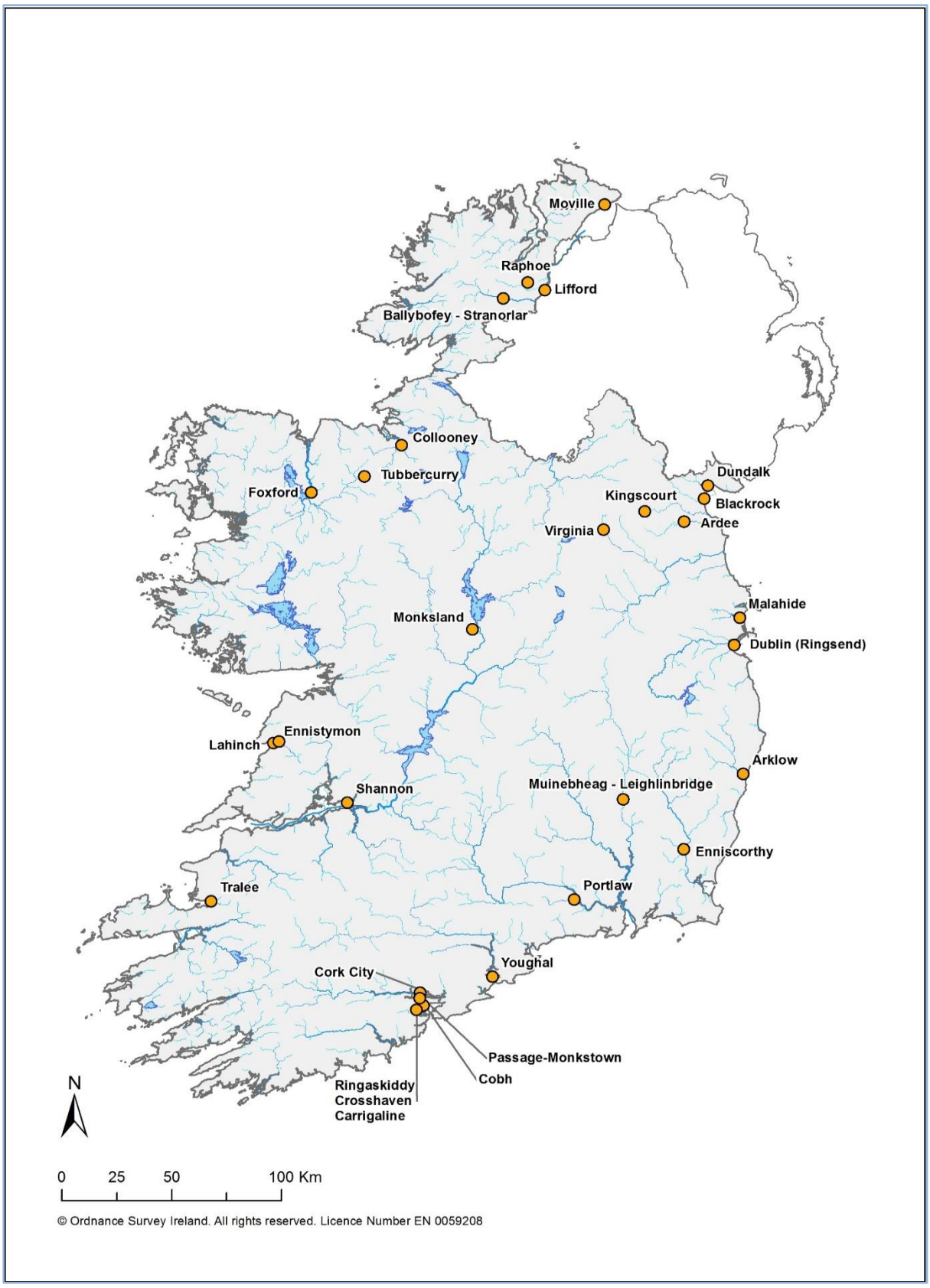


Figure 3: Large urban areas that did not meet the European Union's treatment standards in 2017.

2.2 Untreated waste water

The previous section dealt with large urban areas only. This section of the report covers all areas, including the smaller towns and villages.

There are 38 areas where waste water is collected in public sewers and then released into the environment without receiving treatment. You can see these areas on the map on page 11, and listed in *Appendix C*.

Irish Water has committed to provide treatment for 33 of these areas by the end of 2021. A further three are to receive treatment in 2023, one in 2025 and Irish Water has not provided details on when it will connect the remaining area to treatment.

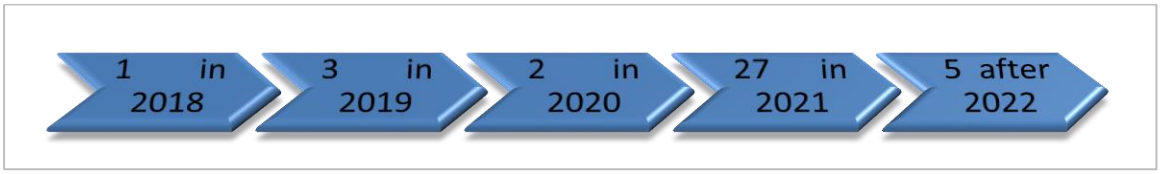


Figure 4: Number of areas to be connected to treatment plants each year[2]

What are the risks from untreated waste water?

Untreated waste water, commonly referred to as raw sewage, can be contaminated with harmful bacteria and viruses. It can pose a health risk to people who come into contact with infected water, and can threaten aquatic ecosystems and the amenity value of our waters.

What progress has been made to eliminate discharges of untreated waste water?

The EPA report on *Urban Waste Water Treatment in 2016* identified 44 areas that were not treating waste water. Six of these are now connected to treatment plants. These are the Ringaskiddy – Crosshaven – Carrigaline area, Youghal, Killybegs, Bundoran, Rush and Belmullet.

[2] The timeframe to provide treatment differs from that published in previous EPA reports because of Irish Water's delays in building many treatment plants. The EPA prosecuted Irish Water for some of these delays and there is further information on these prosecutions in section 7 of this report.

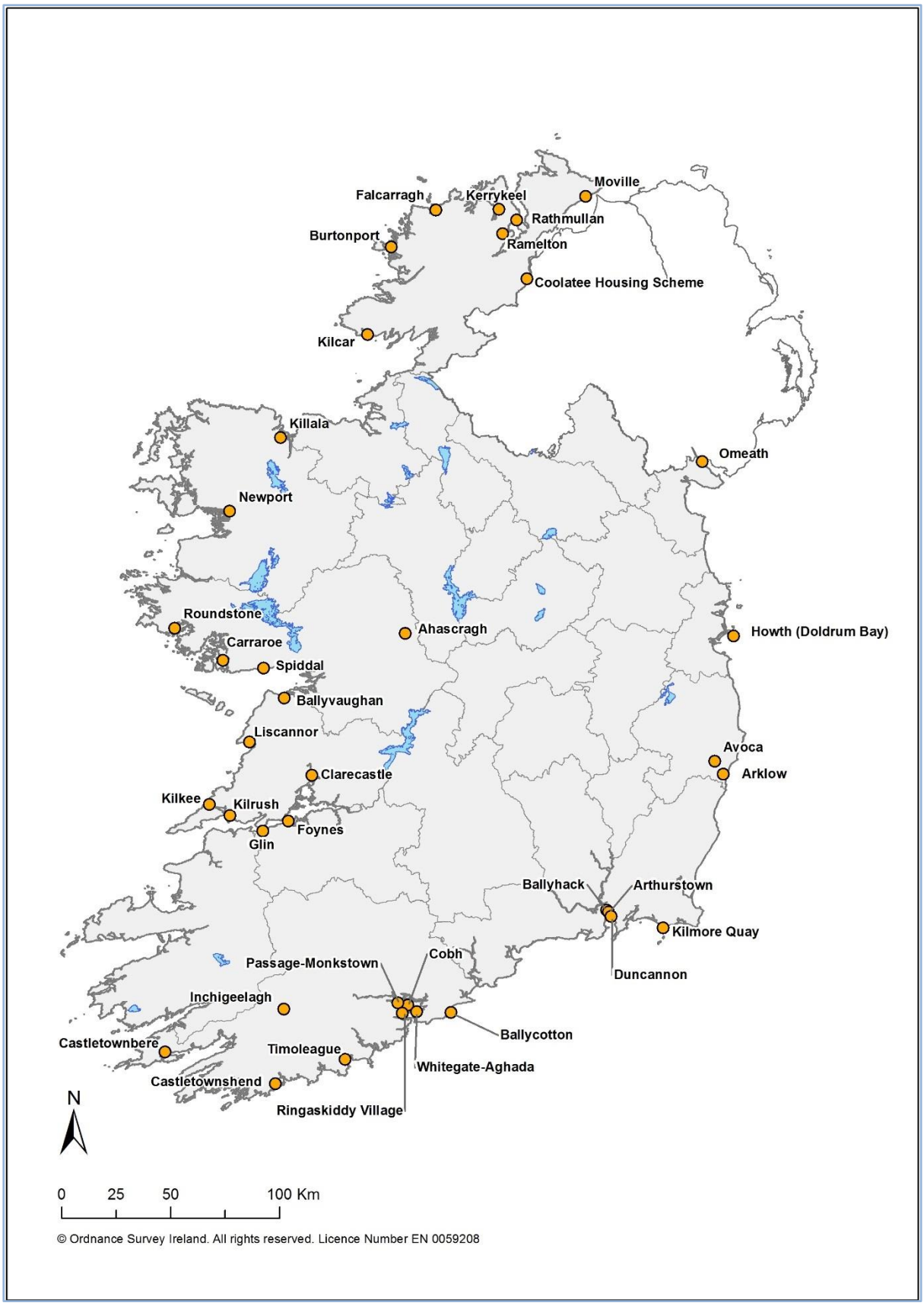


Figure 5: Areas discharging untreated waste water (raw sewage)

3 Risks to water quality

Waste water must be effectively treated to protect the quality of our inland and coastal waters and allow them to support local communities, healthy ecosystems and a diverse range of plants and animals.

3.1 Inland and coastal waters

The EPA assessed and analysed the rivers, lakes, estuaries and coastal waters of Ireland and identified the water bodies at risk of pollution. We then investigated the main threats, or pollution pressures, putting each of these water bodies at risk. Our investigation showed that urban waste water is one of the most common pollution pressures, affecting one-fifth of the at-risk water bodies. The pollution pressures from waste water arise from inadequately treated effluent, as well as leaks, spills or overflows from collection systems.

We have prioritised 57 areas, listed in *Appendix D*, where waste water is the sole significant pressure on waters at risk of pollution. Corrective actions are needed to improve waste water discharges from these areas and thereby help protect and enhance the quality of the receiving waters.

The actions needed may include upgrading the collection and treatment systems, as well as improving the operation and management of these systems.

What is being done to protect waters at risk of pollution?

- Irish Water recently improved treatment at 12 of the 57 areas. The outcomes of these actions are now being assessed to determine if the pollution threat from waste water is resolved.
- Improvement works are ongoing at a further 9 areas.
- Corrective action plans need to be drawn up and/or implemented to address the threat of pollution at the remaining 36 areas.

Where can I find more information?

The River Basin Management Plan 2018 - 2021 outlines what Ireland is doing to protect and improve our waters. The plan includes investment in waste water projects at 255 urban areas, 34 of which serve areas where we have identified waste water as the sole significant pressure on waters at risk of pollution.

You can find lots of information about Ireland's water bodies on www.catchments.ie. The website includes details on the condition of local rivers, lakes and beaches, and the environmental pressures which may be causing problems.

3.2 Bathing waters

Waste water discharges contributed to poor quality bathing waters at six beaches in 2017, up from four the previous year. These are listed in *Appendix E*, along with a summary of the changes since 2016. Improvement works to protect two of these bathing waters from the impacts of waste water discharges have now been completed.

When a bathing water is classified as poor it means there is a risk of periodic pollution, with the potential to cause illness such as stomach upset, skin rash and infections of the ear, nose and throat. While waste water pollutes some bathing waters from time to time, the overall quality of Ireland's bathing water remains very good, with 93% of our beaches meeting the basic standards[3].

You can find out more about Ireland's bathing waters on our website beaches.ie. The website includes information on recent water quality, as well as details of any swim restrictions in place.

[3] EPA annual report on Bathing Water Quality in Ireland in 2017.

Example: The benefits of investing in waste water treatment

Prior to 2015 there was no treatment plant in Ardmore, County Waterford and waste water from this seaside village entered Ardmore Bay without treatment. This had a negative impact on the local bathing water, which was classified as poor quality in 2014. Irish Water, in partnership with Waterford County Council, completed a new treatment plant at the end of 2015. Waste water from the village is now treated to a high standard before it is released into Ardmore Bay. Investment in the new plant has brought significant and sustained improvement to the local water quality, and in 2017 the bathing water was classified as excellent.

Ardmore Beach

4 Protecting freshwater pearl mussels and shellfish

Waste water may harm freshwater pearl mussel and shellfish habitats if it enters such areas without receiving adequate treatment. We review site specific assessments into the impacts of waste water discharges on freshwater pearl mussels and shellfish to target the areas where treatment needs to improve to protect these vulnerable species.

4.1 Freshwater pearl mussels

The freshwater pearl mussel is a critically endangered mollusc that requires clean, fast flowing, well oxygenated rivers with little nutrient or organic content and a clean river bed. Freshwater pearl mussels are declining, both nationally and internationally, due to deteriorating river quality. This has resulted in the failure to produce new generations of mussels.

We have identified 13 urban areas, listed in *Appendix F*, where waste water discharges need to improve to help protect freshwater pearl mussels.

Irish Water carried out work to improve discharges from two of these areas; Kanturk, County Cork and Kilgarvan, County Kerry. Monitoring of these discharges is ongoing to verify if the improvements have been successful in protecting the pearl mussel habitats. Irish Water expects to complete improvements needed at most of the remaining areas over the next three years.

Figure 6: Freshwater pearl mussels

4.2 Shellfish

Waste water released into some coastal areas has the potential to contaminate shellfish such as oysters, mussels, cockles and clams. People can fall ill by eating contaminated shellfish, and this can lead to vomiting, nausea and diarrhoea.

It is sometimes necessary to disinfect waste water during the treatment process to safeguard designated shellfish waters near the effluent discharge points. Disinfection is usually carried out using ultraviolet (often referred to as 'UV') lamps, which kill or inactivate most of the bugs and viruses in the waste water.

Irish Water must assess if discharges are impacting on designated shellfish waters. We analyse the findings of these assessments to identify where disinfection, or other improvements in treatment, are needed to protect these waters.

Ireland has designated 64 areas as shellfish waters.

- Assessments are either not required or found no adverse impact from waste water at 33 shellfish waters[4].
- Irish Water must complete assessments at the remaining 31 shellfish waters to determine if waste water is impacting on these areas. The findings of these assessments will inform the need for improvements in treatment.

We require two urban areas, listed in *Appendix F*, to be upgraded to provide waste water disinfection systems to protect shellfish.

[4] We may not require an assessment if, for example, there are no waste water discharges near the shellfish waters, or if we have already identified the waste water improvements needed to protect shellfish.

5 Collection systems

Waste water from our communities must be collected before it can be treated. Ireland's waste water collection systems include approximately 30,000 kilometres of public sewers and around 2,000 pumping stations. These convey waste water to one of over 1,100 treatment plants around the country. Many collection systems also collect rainwater runoff from roads and other impermeable surfaces.

What are the environmental risks from collection systems?

If waste water leaks or spills out of a collection system before it gets to a treatment plant it can cause environmental pollution. Leaks or spills can happen if the sewer has inadequate capacity, if a pump breaks down, or if there are problems in the sewer such as structural defects, blockages or leaks. Untreated waste water is also released from time to time through overflow outlets within the sewers. We refer to these outlets as storm water overflows.

Why do sewers have storm water overflows?

Storm water overflows are needed to relieve the sewers of excess flows that arise during unusually heavy rainfall. These overflow points act as emergency safety valves, and release excess flow from the sewer directly into local waters. In the absence of such releases the treatment plant could be damaged, and homes and streets flooded by sewage. These releases are usually diluted by significant rainwater but, as they are untreated, they still have the potential to cause pollution.

Sewers must have enough capacity to collect and retain waste water during all normal weather conditions. In other words, storm water overflows should only trigger in extreme rainfall, and should not be used in normal conditions to compensate for a lack of sewer capacity.

What is being done to improve collection systems?

- Irish Water estimates that it will invest over €500 million in collection systems between 2017 and 2021. This level of investment needs to continue for several years to modernise Ireland's national collection systems and ensure they are fit for purpose.

- The European Commission is taking Ireland to the Court of Justice of the European Union over concerns about excessive leaks or spills of waste water from 13 collection systems. These priority areas are listed in *Appendix G*. Irish Water confirmed it has now built a new collection system for one of these areas, and it will carry out any improvements needed at the remaining 12 areas between 2018 and 2023.
- There is a significant shortage of knowledge on the capacity, condition and performance of many collection systems; for example, the volume of waste water lost from these systems is not known. Such knowledge is essential to help plan and focus sewer improvement and rehabilitation works where they are most urgently needed. Table 3 summarises some of the work Irish Water will carry out to meet EPA requirements to improve information on collection systems.

Table 2: Progress on assessing the performance of collection systems

Task	Progress at the end of 2017
Assess the performance of 959 storm water overflows by 2019.	86 assessments completed.
Assess the collection systems at 755 small urban areas by 2021.	0 assessments completed.
Complete 44 detailed assessments of the collection systems serving large urban areas by 2021.	27 assessments commenced and 4 of these are completed.

The progress with these tasks was slow in 2017 and we want to see Irish Water complete the assessments at a much faster pace in the coming years.

6 Improving waste water treatment

6.1 Infrastructure

The pace of improvements to waste water treatment infrastructure falls far short of EPA requirements. At the end of 2017 less than half (48%) of the improvement works due between 2009 and 2017 had been completed.

Our licences require Irish Water to carry out improvement works within specified timeframes, where these are needed to reduce environmental risks. All improvement works must be completed, with priority given to those which will yield the greatest environmental benefit.

Over 50 improvement works were completed in 2017. These include new treatment plants for Oughterard, County Galway and Dungloe, County Donegal, and upgrades to the plants at Ennis North, County Clare and Osberstown, County Kildare.

In 2017 the EPA initiated prosecutions against Irish Water for delays in carrying out key infrastructural improvements needed to stop discharges of untreated waste water from six priority areas. You can find further information on these, and other prosecutions, in section 7 of this report.

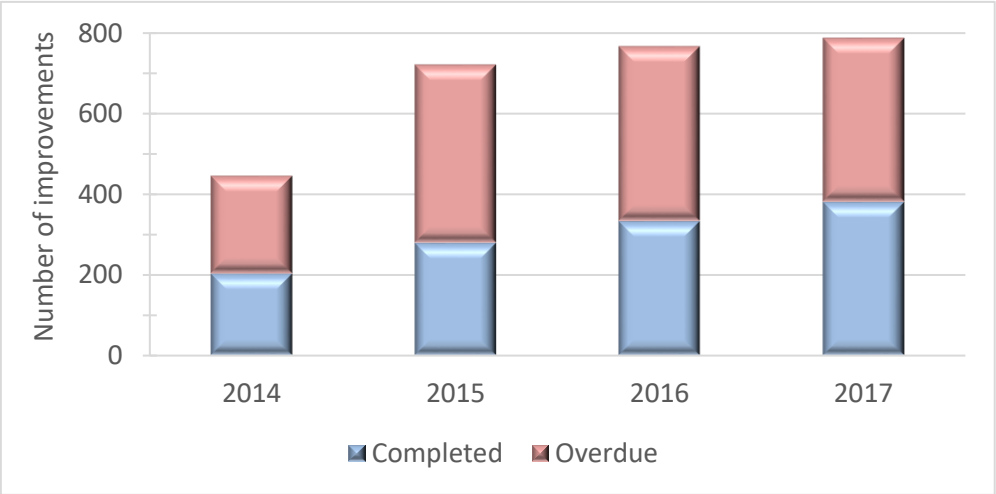


Figure 7: Cumulative status of infrastructural improvement works at the end of each year (2014 to 2017).

6.2 Investment

For many years Ireland has not invested enough in waste water infrastructure and consequently there are significant deficiencies in some collection and treatment systems. Addressing this legacy of underinvestment, and solving the shortfalls in Ireland's waste water infrastructure, requires substantial and sustained investment. This is essential to protect our environment from inadequately treated waste water, minimise public health risks, and support social and economic growth.

Capital expenditure on waste water infrastructure in 2017 was €215 million, up from €172 million the previous year. Irish Water will need to invest at a much faster rate to meet its commitment to spend an average of €326 million each year on waste water infrastructure between 2016 and 2021. It is important to target this investment efficiently in the right areas to deliver improvements where they are most needed.

Ireland risks substantial fines from the Court of Justice of the European Union if it does not complete the overdue infrastructure required by the Urban Waste Water Treatment Directive. Prompt investment in waste water treatment now can reduce the risk of financial penalties in the future.

The Commission for the Regulation of Utilities website at www.cru.ie provides information on the economic regulation of Irish Water. This includes reports on the actual and forecasted delivery of capital investment.

6.3 Operation and maintenance

Sometimes waste water treatment can be improved without the need for significant investment. Simply operating and maintaining the existing treatment systems, to get the very best from them, can boost performance and effluent quality. For example, one-quarter of the unresolved environmental incidents at the end of 2017 can be fixed by improving how the treatment plants are operated, managed and maintained. You can find a summary of environmental incidents in 2017 in *Appendix H*.

Good maintenance of plant and equipment is key to minimising breakdowns and keeping treatment systems in the best condition. Wherever possible, maintenance should take a

preventative approach, for example by servicing equipment regularly, rather than just reacting to problems when they occur.

What is being done to improve how plants are operating?

Irish Water is developing guidance on the essential requirements to successfully operate various waste water treatment systems. This guidance needs to be completed and rolled out to all areas to help support treatment plant operators as they work to improve plant performance.

Sewage sludge

Sewage sludge is a thick, soft mix of solid and liquid matter left over after waste water is treated. Sludge management, such as removing sludge from the treatment process at appropriate intervals, plays an important role in waste water treatment. Irish Water's treatment plants produced 58,773 tonnes of sewage sludge in 2017. Most of this was reused as a soil enhancer or fertiliser on agricultural land. You can find further information on the reuse and disposal of sludge in *Appendix I*.

7 Prosecutions

The EPA initiated nine prosecutions against Irish Water in 2017 for breaches of waste water discharge authorisations. Irish Water was convicted in each case.

Table 3: Prosecutions in 2017

County	Urban area	Main issue	Fines and costs (€)
Clare	Ballyvaughan	These areas discharge untreated waste water. The prosecutions related to the failure to provide treatment plants and treat waste water appropriately before releasing it back into the environment.	6,851
Cork	Castletownbere		7,299
Cork	Castletownshend		8,230
Wexford	Kilmore Quay		8,271
Donegal	Rathmullan		7,054
Galway	Spiddal		7,684
Galway	Glenamaddy	Failure to stop discharging treated waste water into groundwater.	6,499
Clare	Kilfenora		7,856
Laois	Portarlington	Discharging waste water that was not appropriately treated into the River Barrow.	9,693
Total			**69,437**

This is an increase on 2016 when the EPA initiated 5 prosecutions, resulting in fines and costs of €56,205.

Irish Water has completed the work required to improve treatment at Portarlington, and has committed to carry out significant infrastructural works to resolve the issues at each of the other areas.

You can read about our enforcement policy on www.epa.ie and find further information on the prosecutions we have taken at http://www.epa.ie/enforcement/prosecute/.

8 Conclusions and recommendations

This report sets out the most important environmental issues we face in protecting our environment from the harmful effects of waste water. We have identified 132 urban areas where treatment must improve to resolve these national environmental priorities. By targeting resources at these areas, Ireland will deliver improvements where they are most needed.

Table 4: Areas where improvements are most needed[5]

Treatment and effluent quality

- Treatment at 28 large urban areas did not meet European Union standards.

Untreated waste water (raw sewage)

- Untreated waste water from 38 areas flows into the environment every day.

Risks to inland and coastal waters

- Waste water from 57 areas is the sole threat to waters at risk of pollution.
- Improvements are still needed to protect four of the six beaches where waste water contributed to poor quality bathing waters in 2017.

Protecting freshwater pearl mussels and shellfish

- Discharges from 13 areas must improve to protect freshwater pearl mussels.
- Disinfection systems must be installed at two villages to safeguard shellfish.

Collection systems

- Ireland must address concerns about the condition and performance of 13 priority waste water collection systems.

[5] There is more than one environmental priority issue at some areas so the total number of priority issues to be resolved in Table 5 is greater than the 132 areas where treatment must improve.

There are two key steps to resolve these issues:

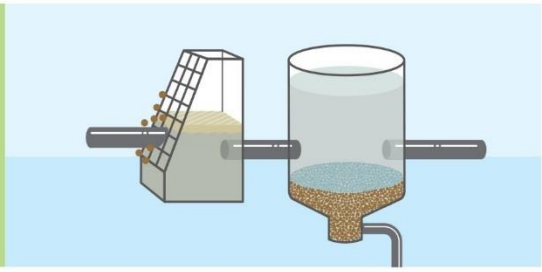
1. Upgrade deficient waste water treatment systems in as timely a manner as possible. This requires increased investment and efficient delivery of infrastructure improvements.
2. Get the best performance from the existing treatment systems by continuing to improve how they are operated, managed and maintained.

Reliable information is essential to identify environmental risks, and plan improvements to mitigate these risks. Irish Water must complete the overdue assessments that we need to analyse the risks to shellfish, and must also address the significant information gaps on the condition and performance of waste water collection systems. This will help to target where future improvement works are needed.

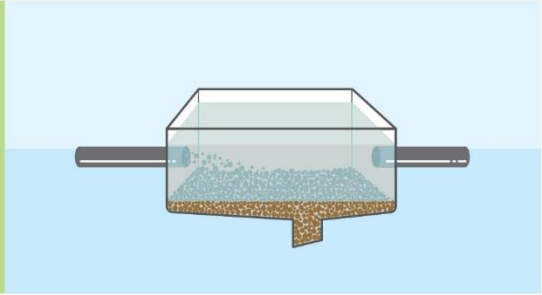
Glossary and background information

How is waste water treated?

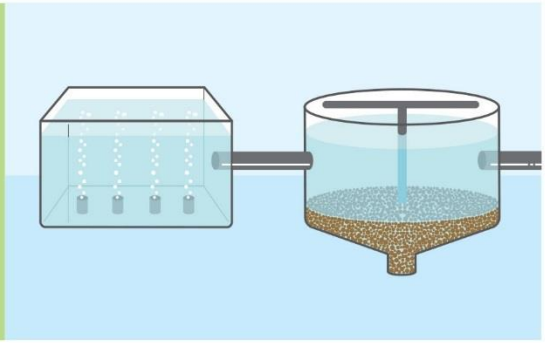
Preliminary treatment. Waste water flows through screens and tanks that remove rags, large pieces of plastic, grit, fat and grease. This prepares the waste water for the next stages of treatment outlined below.



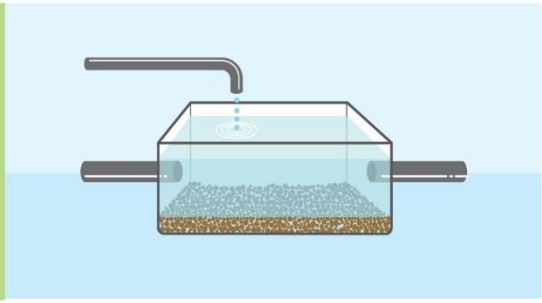
Primary treatment. The waste water enters large sedimentation tanks. Particles in suspension within the waste water sink down by gravity to the bottom of the tanks and are removed.



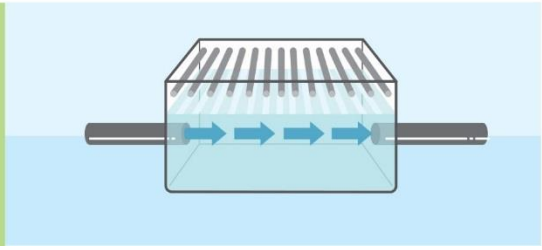
Secondary treatment. This is a biological process whereby microorganisms such as bacteria break down and remove the organic (polluting) matter. The clean water is then separated from the solid particles (referred to as 'sludge') in a final settlement tank. Secondary treatment is a higher level of treatment than primary treatment, and it significantly reduces the amount of polluting matter.



Nutrient removal. Additional treatment is sometimes carried out to further reduce nutrients such as nitrogen and phosphorus. This may be through biological processes whereby bacteria remove the nutrients, or by adding chemicals that cause the nutrients to precipitate out of the waste water.



Disinfection. This may be carried out after the other stages of treatment, to kill or inactivate any remaining bugs or viruses. Disinfection is typically achieved by irradiating the treated water with ultraviolet light.



Directive	The Urban Waste Water Treatment Directive. We assess compliance with the Directive using the effluent monitoring results, and information on the type of treatment, size of the urban area, and the type of water that the effluent is discharged into. Irish Water provides this information to the EPA and is responsible for ensuring it is true and accurate.
Effluent	The waste water discharged back into the environment from a waste water collection and treatment system.
Effluent quality standards	Irish Water must sample and monitor effluent regularly to check if it has been properly treated and meets the necessary quality standards. Standards for secondary treatment. The Directive sets mandatory effluent quality standards for two parameters used to assess polluting potential, namely biochemical oxygen demand and chemical oxygen demand. These measure the amount of oxygen used up (demanded) to break down and get rid of polluting matter in the effluent. If effluent does not meet these quality standards it may lead to a drop in the oxygen levels in the receiving waters. This could harm aquatic life and biodiversity. Effluent discharged from all 179 large urban areas must meet these basic standards. Standards for more stringent treatment. Effluent discharged to sensitive areas (see page 27) requires a higher level of treatment, to reduce the nutrients that could lead to pollution. Phosphorous and nitrogen are the main nutrients that drive pollution in sensitive areas. The Directive sets maximum limits on the concentration of phosphorus and nitrogen in effluent discharged to sensitive areas from urban centres with a population equivalent of at least 10,000. In 2017, a total of 41 towns and cities were subject to these standards.

Large urban area	Towns and cities with a population equivalent of at least 2,000 that discharge effluent to freshwater or estuaries, and areas with a population equivalent of at least 10,000 that discharge effluent to coastal waters. The 179 large urban areas in this report account for 91% of the total national waste water load collected by Irish Water.
Population equivalent	This is a term used to indicate how much waste water is generated in an urban area. It includes the load generated by the resident population, the non-resident population (for example, tourists) and industries. A population equivalent of one is defined as the organic biodegradable load having a five-day biochemical oxygen demand of 60g of oxygen per day.
Sensitive area	A water body is a sensitive area if it is eutrophic; may become eutrophic if protective action is not taken; or is intended for abstraction of drinking water and contains more than 50 milligrams per litre of nitrates. Ireland's sensitive areas are listed in national legislation (see here). Eutrophic refers to the enrichment of waters by nutrients, leading to an accelerated growth of algae and aquatic plants. This can cause a decrease in oxygen levels in the water and a loss of sensitive aquatic species. Eutrophication is the most significant pollution issue for surface waters in Ireland. Phosphorus enrichment tends to drive eutrophication in rivers and lakes, whereas nitrogen enrichment tends to drive eutrophication in coastal waters.
Shellfish waters	Shellfish waters are protected areas that are designated to support shellfish life and growth. They are identified in the following national legislation: Statutory Instrument (S.I.) 268 of 2006, S.I. 55 of 2009 and S.I. 464 of 2009.

Urban waste water	Domestic waste water, or the mixture of domestic waste water with industrial waste water and / or rainwater runoff. - Domestic waste water is waste water from residential settlements and services, which originate predominantly from human metabolism and from household activities. - Industrial waste water is the waste water discharged from premises used to carry on any trade or industry. Urban waste water is commonly referred to as 'sewage'.
Waste water discharge authorisation	A waste water discharge licence is required for discharges from areas with a population equivalent of 500 or more. A certificate of authorisation is required for discharges from areas with a population equivalent below 500. The EPA has issued over 1,060 waste water discharge authorisations. You can view all these authorisations, as well as annual environmental reports on the performance of each licenced site, at www.epa.ie.

Appendix A: Priority areas.

This section lists the 132 urban areas where improvements are needed to resolve our environmental priorities.

Co. Carlow (3)	Co. Cork (25)	Co. Donegal (19)
Muinebheag-Leighlinbridge	Ballincollig	Ballintra
Nurney	Ballycotton	Ballybofey-Stranorlar
Tullow	Ballydesmond	Bridgend
	Boherbue	Burnfoot
Co. Cavan (6)	Castletownbere	Burtonport
Baileborough	Castletownroche	Carndonagh - Malin
Blacklion	Castletownshend	Convoy
Cavan	Cecilstown	Coolatee
Kingscourt	Cobh	Falcarragh
Mullagh	Cork City	Kerrykeel
Virginia	Crookstown	Kilcar
	Fermoy	Kilmacrennan
Co. Clare (9)	Inchigeelagh	Lifford
Ballyvaughan	Kanturk	Milford
Clarecastle	Kealkill	Moville
Ennistymon	Lombardstown	Ramelton
Kilkee	Mallow	Raphoe
Kilmihil	Midleton	Rathmullan
Kilrush	Millstreet	Termon
Lahinch	Passage-Monkstown	
Liscannor	Ringaskiddy-Crosshaven-Carrigaline	**Co. Dublin (3)**
Shannon	Ringaskiddy village	Balbriggan-Skerries
	Timoleague	Ringsend
	Whitegate-Agada	Malahide
	Youghal	

Co. Galway (10)
Ahascragh
Athenry
Ballymoe
Carraroe
Clifden
Loughrea
Mountbellew
Roundstone
Spiddal
Woodford

Co. Kerry (4)
Abbeydorney
Castleisland
Kilgarvan
Tralee

Co. Kildare (1)
Osberstown

Co. Kilkenny (3)
Freshford
Goresbridge
Johnstown

Co. Laois (3)
Ballyroan
Castletown
Portarlington

Co. Leitrim (1)
Mohill

Co. Limerick (4)
Foynes
Glin
Herbertstown
Hospital

Co. Louth (7)
Ardee
Blackrock
Castlebellingham
Dundalk
Dunleer
Omeath
Tallanstown

Co. Mayo (3)
Foxford
Killala
Newport

Co. Monaghan (2)
Carrickmacross
Castleblayney

Co. Offaly (2)
Kilcormac
Tullamore

Co. Roscommon (2)
Monksland
Roscommon

Co. Sligo (3)
Collooney
Grange
Tubbercurry

Co. Tipperary (3)
Mullinahone
Roscrea
Thurles

Co. Waterford (3)
Dungarvan
Kill
Portlaw

Co. Westmeath (4)
Athlone
Ballymore
Multyfarnham
Tyrellspass

Co. Wexford (8)
Arthurstown
Ballycanew
Ballyhack
Clonroche
Coolgreany
Duncannon
Enniscorthy
Kilmore Quay

Co. Wicklow (4)
Arklow
Avoca
Kilcoole
Kilpedder

Appendix B: Urban Waste Water Treatment Directive non-compliance.

This section shows the 28 large urban areas that did not meet the EU's legally binding standards for the treatment of urban waste water.

County	Urban area	Failed the secondary treatment requirements	Failed the more stringent treatment requirements
Carlow	Muinebheag - Leighlinbridge	✓	✓
Cavan	Kingscourt	✓	
	Virginia	✓	
Clare	Ennistymon	✓	
	Lahinch	✓	
	Shannon	✓	
Cork	Cork		✓
	Cobh	✓	✓
	Passage - Monkstown	✓	
	Ringaskiddy - Crosshaven - Carrigaline		✓Note 1
	Youghal	✓	✓
Donegal	Ballybofey - Stranorlar	✓	
	Lifford	✓	
	Moville	✓	
	Raphoe	✓	
Dublin	Malahide		✓Note 1
	Ringsend	✓	✓
Kerry	Tralee		✓Note 1
Louth	Ardee	✓	
	Blackrock	✓	
	Dundalk		✓Note 1

County	Urban area	Failed the secondary treatment requirements	Failed the more stringent treatment requirements
Mayo	Foxford	✓	
Roscommon	Monksland	✓	
Sligo	Collooney	✓	
	Tubbercurry	✓	
Waterford	Portlaw	✓	
Wexford	Enniscorthy	✓	✓
Wicklow	Arklow	✓	
Total	**28**	**23**	**10**

Note 1. The effluent discharged from the treatment plant met the effluent quality standards. Irish Water confirmed that in 2017 Ringaskiddy-Crosshaven-Carrigaline and Malahide did not have more stringent treatment to remove nitrogen; Tralee did not have more stringent treatment to remove nitrogen and phosphorus; and Dundalk did not have more stringent treatment to remove phosphorus. Therefore, these areas did not meet the Directive's requirement for waste water to be subject to more stringent treatment than secondary treatment to remove nutrients.

Rates of non-compliance

There are 179 large urban areas in Ireland which must comply with the secondary treatment requirements in the Directive.

- The 23 areas that did not meet the secondary treatment requirements account for almost half (47%) of the total waste water load collected in all 179 large urban areas.

There are 41 urban areas which must comply with the more stringent treatment requirements in the Directive.

- The 10 areas that did not meet the more stringent treatment requirements account for approximately three quarters (76%) of the waste water load collected in all 41 areas subject to these requirements.

Appendix C: Areas discharging untreated waste water.

This section shows the 38 areas discharging untreated waste water (raw sewage) into the environment.

County	Urban area
Clare	Ballyvaughan
	Clarecastle
	Kilkee
	Kilrush
	Liscannor
Cork	Ballycotton
	Castletownbere
	Castletownshend
	Cobh
	Inchigeelagh
	Passage West - Monkstown
	Ringaskiddy village
	Timoleague
	Whitegate - Aghada
Donegal	Burtonport
	Coolatee Housing Scheme
	Falcarragh
	Kerrykeel
	Kilcar
	Moville
	Ramelton
	Rathmullan
Dublin	Howth (Doldrum Bay)[6]

[6] This is a secondary discharge within the area covered by the Ringsend waste water discharge licence. It caters for a population of approximately 120.

County	Urban area
Galway	Ahascragh
	Carraroe
	Roundstone
	Spiddal
Limerick	Foynes
	Glin
Louth	Omeath
Mayo	Killala
	Newport
Wexford	Arthurstown
	Ballyhack
	Duncannon
	Kilmore Quay
Wicklow	Arklow
	Avoca

Improvements since 2016

The report on *Urban Waste Water Treatment in 2016* highlighted 44 areas discharging untreated sewage. Six of these, listed below, have now been connected to treatment plants.

County	Urban area
Cork	Ringaskiddy - Crosshaven - Carrigaline
	Youghal
Donegal	Bundoran
	Killybegs
Dublin	Rush
Mayo	Belmullet

Appendix D: Pressures on water bodies.

The table shows 57 areas where we consider waste water discharges to be the sole significant pressure on water bodies at risk of pollution.

County	Urban area	Water body name[7]
Carlow	Nurney	Ballynaboley Stream_010
	Tullow	Slaney_100
Cavan	Bailieborough	Blackwater (Kells)_020
	Blacklion	Macnean
	Mullagh	Mullagh Lough Stream_010
Clare	Kilmihil	Kilmihil Stream_010
Cork	Cork City	Lough Mahon
	Crookstown	Bride (Lee)_020
	Passage - Monkstown	Lough Mahon
Donegal	Ballintra	Ballintra 37_010
	Bridgend	Skeoge_010
	Burnfoot	Burnfoot_020
	Carndonagh - Malin	Donagh_030
	Convoy	Deele (Donegal)_030
	Kilmacrennan	Leannan_050
	Milford	Fern, Maggy's Burn_010
	Termon	Leannan_050
Dublin	Malahide	Malahide Bay
	Ringsend	Liffey Estuary Lower, Liffey Estuary Upper, Tolka Estuary

[7] The number at the end of each river water body name indicates where the water body is located along the main river channel. For example, the water body at the source of the Barrow is named Barrow_010. The next water body downstream is named Barrow_020. The final water body before the river becomes transitional (also referred to as estuarine) is Barrow_240. Transitional, coastal and lake water bodies do not have a number at the end of the water body name.

County	Urban area	Water body name
Galway	Athenry	Clarinbridge_030, Clarinbridge_040
	Ballymoe	Island_030
	Loughrea	Kilcolgan_020
	Mountbellew	Castlegar_020
	Woodford	Woodford (Galway)_020
Kerry	Abbeydorney	Brick_020
	Castleisland	Maine_020
	Tralee	Lee K Estuary
Kilkenny	Freshford	Nuenna_020
	Goresbridge	Barrow_220
	Johnstown	Goul_030
Laois	Portarlington	Barrow_080
Leitrim	Mohill	Rinn_010
Limerick	Herbertstown	Camoge_010
	Hospital	Mahore_020
Louth	Blackrock	Inner Dundalk Bay
	Castlebellingham	Glyde_070
	Dundalk	Castletown Estuary, Inner Dundalk Bay
	Dunleer	White (Louth)_020
	Tallanstown	Glyde_050
Monaghan	Carrickmacross	Proules_020
	Castleblayney	Muckno
Offaly	Kilcormac	Silver (Kilcormac)_030
	Tullamore	Tullamore_040
Sligo	Collooney	Owenmore (Sligo)_080
	Grange	Grange (Sligo)_010
	Tubbercurry	Tubbercurry_010, Tubbercurry Stream_010
Tipperary	Mullinahone	Mullinahone Stream_010

County	Urban area	Water body name
Waterford	Dungarvan	Colligan Estuary
	Kill	Kilmurrin Cove Stream_010
Westmeath	Ballymore	Dungolman_030
	Multyfarnham	Gaine_020
	Tyrellspass	Brosna_050
Wexford	Ballycanew	Owenavorragh_050, Owenavorragh_060
	Clonroche	Boro_040
	Coolgreany	Clonough_010
Wicklow	Kilcoole	Kilcoole Stream_010, Newtownmountkennedy_020
	Kilpedder	Kilcoole Stream_010

The number of areas where waste water discharges are considered the sole pressure on water bodies at risk of pollution has reduced by two since last year.

- The new treatment plant at Stradbally, County Laois has resolved the urban waste water pressure on the Stradbally (Laois)_30 water body.
- Discharges from Glenamaddy, County Galway are no longer considered a sole pressure on the Gortgarrow stream, following a review of new information.

What do we mean by 'at risk of pollution'?

The European Union's *Water Framework Directive* is one of the key pieces of legislation aimed at protecting and enhancing waters across Europe. The Directive requires Ireland to protect and enhance our inland and coastal waters to meet the following environmental objectives:

- achieve at least good status; and
- prevent any deterioration in existing status.

Water bodies that are of good status support healthy ecosystems and a diverse range of plants and animals. When we refer to water bodies 'at risk of pollution' in section 3 of the report and in this Appendix, we mean they are at risk of not meeting their environmental objectives.

Appendix E: Impacts on bathing water.

The table below shows where waste water discharges contributed to poor quality bathing waters in 2017.

County	Urban area	Bathing Water
Dublin	Balbriggan - Skerries	Loughshinny Beach
	Dublin City (Ringsend)	Merrion Strand
		Sandymount Strand
	Rush	Rush South Beach
Galway	Clifden	Clifden Beach
	Galway City	Ballyloughane Beach

The *Urban Waste Water Treatment in 2016* report identified four areas contributing to poor quality bathing waters in 2016. These were all classified as poor again in 2017. Two additional bathing waters, at Rush South Beach and Sandymount Strand, deteriorated to poor status in 2017 due to the impacts of waste water discharges.

The improvement works needed to protect two of these six poor quality bathing waters from the adverse impacts of waste water discharges have now been completed.

- **Rush South Beach**. The poor bathing water quality at Rush South Beach was due to discharges of untreated waste water from Rush. Irish Water completed works in 2018 to ensure all waste water from Rush is now collected and treated before it is released back into the environment.
- **Ballyloughane Beach**. Several pressures, including waste water discharges from Galway City, have been affecting water quality at Ballyloughane Beach for many years. Irish Water confirmed it has now completed the remedial works necessary to ensure waste water no longer contributes to poor bathing water quality at this beach.

Appendix F: Protecting freshwater pearl mussels and shellfish.

Freshwater pearl mussels

The table below shows the 13 areas where Ireland needs improvements in waste water treatment to protect freshwater pearl mussels.

County	Urban area
Cork	Ballydesmond
	Boherbue
	Castletownroche
	Cecilstown
	Inchigeelagh
	Kanturk
	Kealkill
	Lombardstown
	Mallow
	Millstreet
Kerry	Kilgarvan
Laois	Ballyroan
	Castletown

The *Urban Waste Water Treatment in 2016* report prioritised 12 areas to protect freshwater pearl mussels. We have now added one further area because a recent assessment found that waste water discharges from Ballydesmond are impacting on nearby freshwater pearl mussel habitats.

Impact assessments must still be finalised for some urban areas. When these are complete we will determine if waste water treatment improvements are needed to safeguard freshwater pearl mussels near any of these areas.

Shellfish

The table below shows the areas where we require Irish Water to install waste water disinfection to safeguard shellfish.

County	Urban area
Donegal	Rathmullan
Mayo	Killala

When Irish Water completes the ongoing shellfish impact assessments we will determine if additional areas need disinfection.

The *Urban Waste Water Treatment in 2016* report identified three areas where disinfection was required. Irish Water has now completed a new treatment plant with ultraviolet disinfection at one of these areas; Belmullet in County Mayo.

Appendix G: Priority collection systems.

The European Commission raised concerns about excessive leaks or spills of waste water from the 13 collection systems shown in the table below.

County	Urban Area
Cavan	Cavan
Cork	Ballincollig
	Cork City
	Fermoy
	Mallow
	Midleton
	Ringaskiddy – Crosshaven - Carrigaline
Kildare	Osberstown
Roscommon	Roscommon
Tipperary	Roscrea
	Thurles
Westmeath	Athlone
Wexford	Enniscorthy

Irish Water confirmed it resolved the concerns at Ringaskiddy – Crosshaven – Carrigaline by building a new collection system, which conveys waste water to the treatment plant at Shanbally.

Appendix H: Incidents.

An incident is:

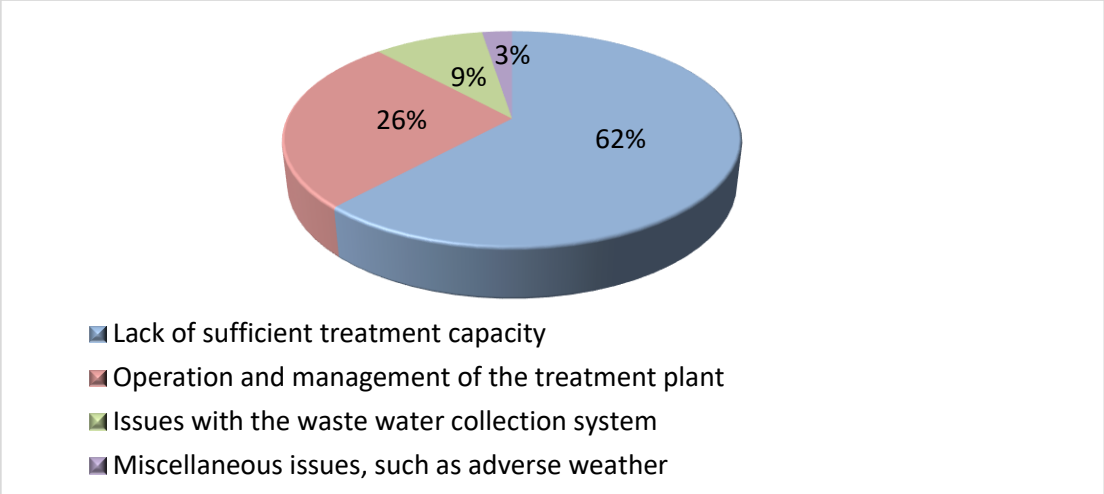
- any discharge that does not comply with the requirements of a waste water discharge licence; or
- any occurrence at a waste water works with the potential for environmental contamination, or requiring an emergency response.

The most common example of an incident is when waste water is discharged without sufficient treatment.

At the end of 2017 there were 236 incidents that were either ongoing, or were likely to recur until the underlying cause of the incident is resolved. We refer to these as 'recurring incidents'. The number of recurring incidents reduced by 33 since the end of 2016.

Irish Water will need to upgrade treatment plants to resolve most of the recurring incidents. However, approximately one-quarter (26%) of recurring incidents can be fixed by improving the operation and management of the treatment plants.

Causes of recurring incidents in 2017



There were also over 700 short duration or one-off incidents during 2017. The underlying cause of 40% of these short duration incidents was connected to the operation and management of the treatment plants.

Appendix I: Sewage sludge.

The table below shows the amount of sewage sludge produced in 2017, and the re-use or disposal routes for this sludge.

Sludge is rich in nutrients, and most of it was used as a soil enhancer or fertiliser on agricultural land. When used in this manner, it must be spread in a way that ensures the nutrients are effectively used for plant growth, or assimilated into the soil.

	Agriculture	Compost	Landfill	Other	Total
Tonnes dry solids	46,487	10,065	87	2,134	**58,773**

Sewage sludge reuse and disposal routes in 2017

The category 'Other' refers to sludge used in anaerobic digestion and cement kilns, and sludge that was in storage at the end of 2017.

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
- Oifig um Chosaint Radaíochta agus Monatóireachta Comhshaoil
- 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.

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Headquarters
PO Box 3000, Johnstown Castle Estate
County Wexford, Y35 W821, Ireland
Bosca Poist 3000, Eastát Chaisleán Bhaile Sheáin Contae Loch Garman, Y35 W821, Éire

T: +353 53 9160600
F: +353 53 9160699
E: info@epa.ie
W: www.epa.ie
Lo Call: 1890 33 55 99

EPA Regional Inspectorate Dublin
McCumiskey House
Richview
Clonskeagh Road
Dublin 14
D14 YR62
Tel: 01-268 0100
Fax: 01-268 0199

EPA Regional Inspectorate Cork
Inniscarra
Co. Cork
P31 VX59
Tel: 021-4875540
Fax: 021-4875545

EPA Regional Inspectorate Castlebar
John Moore Road
Castlebar
Co. Mayo
F23 KT91
Tel: 094-9048400
Fax: 094-9021934

EPA Regional Inspectorate Kilkenny
Seville Lodge
Callan Road
Kilkenny
R95 ED28
Tel: 056-7796700
Fax: 056-7796798

EPA Regional Inspectorate Monaghan
The Glen
Monaghan
H18 YT02
Tel: 047-77600
Fax: 047-84987

E: info@epa.ie
W: www.epa.ie
LoCall: 1890 33 55 99

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