

Water Environment (Abstractions and Associated Impoundments) Bill 2022

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Introduction

This L&RS Note has been prepared with a view to assisting Members of the Houses of the Oireachtas in relation to their consideration of the Water Environment (Abstractions and Associated Impoundments) Bill 2022. The Note provides an overview of the current status of water abstraction in Ireland. The Note covers:

1. Abstraction – what is it and why should it be regulated?
2. Current position in Ireland – how is abstraction regulated in Ireland?
3. How do other countries regulate abstraction?
4. How does abstraction vary across Ireland?
5. What are the implications of the forthcoming Bill?

Potential Policy Considerations

- Proposed water abstraction threshold (25 m³) for which registration is required are unchanged from the *status quo*, which has been highlighted by stakeholders as a concern
- The effectiveness of the proposed water abstraction threshold (2,000 m³) for which licencing is required has been questioned by stakeholders



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Background

This L&RS Note has been prepared with a view to assisting Members of the Houses of the Oireachtas in relation to their consideration of the Water Environment (Abstractions and Associated Impoundments) Bill 2022 ('the Bill'), by providing members with an overview of the current state of abstraction in Ireland. At the time of writing, the Bill had not yet been published and therefore the analysis in this paper relating to the Bill is based on a near final draft of the Bill which the L&RS has had sight of.

The information presented in this Note derives from an analysis of select academic literature, official reports from the Environmental Protection Agency (EPA), including data, and previous L&RS research conducted for the Joint Committee on Housing, Local Government and Heritage in November 2020.

The purpose of the proposed Bill is the introduction of a regime for the control of the abstraction of water on a risk-based approach to **bring Ireland into compliance¹ with the European Union Water Framework Directive 2000/60/EU**.

Abstraction – what is it and why should it be regulated?

Abstraction means the removal of water from surface bodies or groundwater either permanently or temporarily. This water is then used for drinking, farming, industrial processes, power generation, etc. Like any resource, over-extraction of water can deplete this resource and therefore impact human health, farm productivity, biodiversity, and the economy. It is in this context, the need to sustainably management a critically important resource, that the legislation of the Water Framework Directive (WFD) was introduced.

The **over abstraction** happens when more water is taken out than replaced through normal processes, with potential results including reduced flows in rivers, lakes, and groundwater bodies. When there is **over abstraction** this can lead to:

- springs drying up,
- nearby wells emptying,
- higher pumping costs,
- subsidence,
- reduced river flows in summer,
- fish kills,
- salt-water intrusions that contaminate the groundwater (in coastal areas).

Abstraction also has to be considered alongside the **accelerating impacts of climate change**, with Ireland predicted to face increasingly hot and dry summers² with potentially serious impacts

¹ [Consultation Paper – General Scheme fo the Water Environment \(Abstractions\) Bill 2018](#)

² [Sweeney, John. "Climate Change in Ireland: Science, Impacts and Adaptation." *Ireland and the Climate Crisis* \(2020\): 15.](#)

on livestock³, grain products⁴, wildlife⁵ and human health.⁶ In this context, regulated management of Ireland's water resources is of critical importance.

Current position in Ireland – how is abstraction regulated in Ireland?

Current legislation

The [Water Framework Directive](#) (WFD) sets the overall regulatory framework for managing water resources in the European Union (EU), including in Ireland. The WFD was adopted in 2000, to establish a common framework for the protection of inland surface waters, transitional waters, coastal waters and **groundwater**. The overall aim of the WFD is to maintain high and good status⁷ of waters where they exist and to restore waters that do not currently reach these standards by 2027 at the latest. Ireland has transposed the WFD into Irish law through extensive secondary legislation.⁸ Since 2007 the European Commission has been engaging with Ireland on what it considers to be Ireland's incorrect transposition of the Water Framework Directive.⁹

Since 2007 the European Commission has been engaging with Ireland on what it considers to be Ireland's incorrect transposition of the Water Framework Directive.¹⁰ In 2019, the key elements of the Directive which the Commission alleges have been incorrectly or inadequately transposed by Ireland include the following:

Article 2(28), the definition of "water services"

Article 7(3) dealing with the protection of drinking water sources

³ [Risk of Drought- Risk of Drought-Related "Fodder Crises" in Irish Related "Fodder Crises" in Irish Agriculture under mid- 21st Century Climatic Conditions](#)

⁴ [Decreases in global beer supply due to extreme drought and heat](#)

⁵ [Climate change: potential implications for Ireland's biodiversity](#)

⁶ [Heat-health vulnerability in temperate climates: lessons and response options from Ireland](#)

⁷ "Good Ecological Status" is the default WFD objective for all water bodies. It is defined as a slight variation from undisturbed conditions. Calculating Ecological Status includes measuring:

- biological elements (including fish, macro-invertebrates, macrophytes and diatoms); and
- supporting elements (hydromorphology, ammonia, pH, phosphates, dissolved oxygen and 18 pollutants including some heavy metals and pesticides)

⁸European Union (Water Policy) (Abstractions Registration) Regulations 2018 (S.I. No. 261/2018)

European Union (Water Policy) Regulations 2014 (S.I. No. 350 of 2014)

European Communities (Technical Specifications for the Chemical Analysis and Monitoring of Water Status) Regulations, 2011 (S.I. No. 489 of 2011)

European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2010 (S.I. No. 610 of 2010)

European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010)

European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I. No. 272 of 2009)

European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003)

⁹ Infringement 2007/2238 – Non-conformity and shortcomings in the transposition of the Water Framework Directive

¹⁰ A list of communications in relation to Infringement 2007/2238 are available to view [here](#).

Article 11(3)(e) dealing with the control of abstractions and impoundments of water

Article 11(5), dealing with the monitoring of water quality and the investigation of quality failures

Article 11(6), dealing with the potential impact on marine waters of measures taken under the Directive

Articles 11(7), 11(8) and 13(7) which set out key operational and review dates.¹¹

In [October 2020](#), the Commission stated that if Ireland did not address these issues, the Commission may refer the matter to the Court of Justice of the European Union¹². In particular, the Commission stated:

The key areas where Ireland's transposing law should provide for appropriate controls are: water abstraction, impoundment and activities causing hydromorphological changes such as dams, weirs and other interferences in natural water flow.

Primary legislation concerning abstraction

Presently the abstraction of water is governed by the [Water Supplies Act 1942 \(as amended\)](#) and the [Local Government \(Sanitary Services\) Act 1964](#), which deal with the abstraction of water for public drinking water supply purposes only and do not cover private, commercial, or industrial abstractions.

The Bill is intended to repeal and replace the [Water Supplies Act 1942](#); section 4 of the [Local Government \(Sanitary Services\) Act 1964](#); and subsections 9(2) and 9(8) of the [Local Government \(Water Pollution\) Act 1977](#).

Secondary legislation concerning abstraction

Abstraction not currently covered by primary legislation (i.e. private, commercial, or industrial abstractions) is subject to [S.I. No. 261/2018 - European Union \(Water Policy\) \(Abstractions Registration\) Regulations 2018](#), which allowed the EPA to create a Water Abstractions Register. These regulations required registration of abstractions of or greater than 25 cubic metres (m³)¹³ per 24-hour period (since mid-2018).

The Bill is intended revoke [S.I. No. 261/2018 - European Union \(Water Policy\) \(Abstractions Registration\) Regulations 2018](#), which provided the EPA with the power to create a Water Abstractions Register. These regulations required registration of abstractions of or greater than 25 cubic metres per day (since mid-2018).

Current regulatory framework

Regulation and monitoring of abstraction in Ireland is currently performed by different agencies depending on the type of water supply (Table 1). The EPA is the supervisory body for public water supplies provided by Irish Water, while Local Authorities supervise public and private group

¹¹ PQ 8525/19.

¹² [October infringements package: key decisions \(europa.eu\)](#)

¹³ 1 m³ is equal to 1,000 litres. The CSO [reports](#) that the average Irish household used 355 L per day on average in 2019.

schemes, as well as small private supplies (e.g. for schools, hotels, restaurants, etc.). Local Authorities supply information to the EPA on the water supplies they monitor, which is then published in the EPA's annual reports on Group Schemes and Private Supplies¹⁴

Household wells are exempted from regulation, with no current or proposed regulation or supervisory body¹⁵. Households are responsible for their own wells and water quality, with [grants available](#) for improvement works to these wells.

As noted above, any abstraction of 25m³ or more must be registered with the EPA, who keeping up-to-date record of all reported water abstractions that are over this threshold.

Table 1 Types of water supply, number of supplies per type and supervisory authority.

Supply Type	Supplier / Supplying	No. of Supplies	Supervisory Authority
Public Water Supplies	Irish Water	815	EPA
Public Group Water Schemes	Local Group	377	Local Authorities
Private Group Schemes	Local Group	385	Local Authorities
Small Private Supplies	Commercial/public activity	1,700	Local Authorities
Exempted Supplies (Household Wells)	Individual supplier	172,000	Exempted

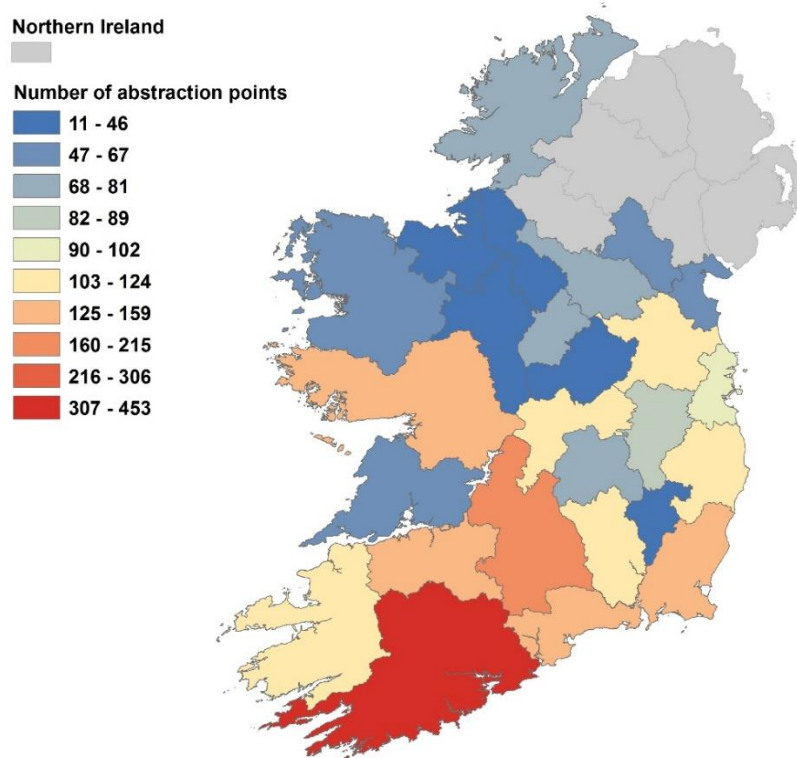
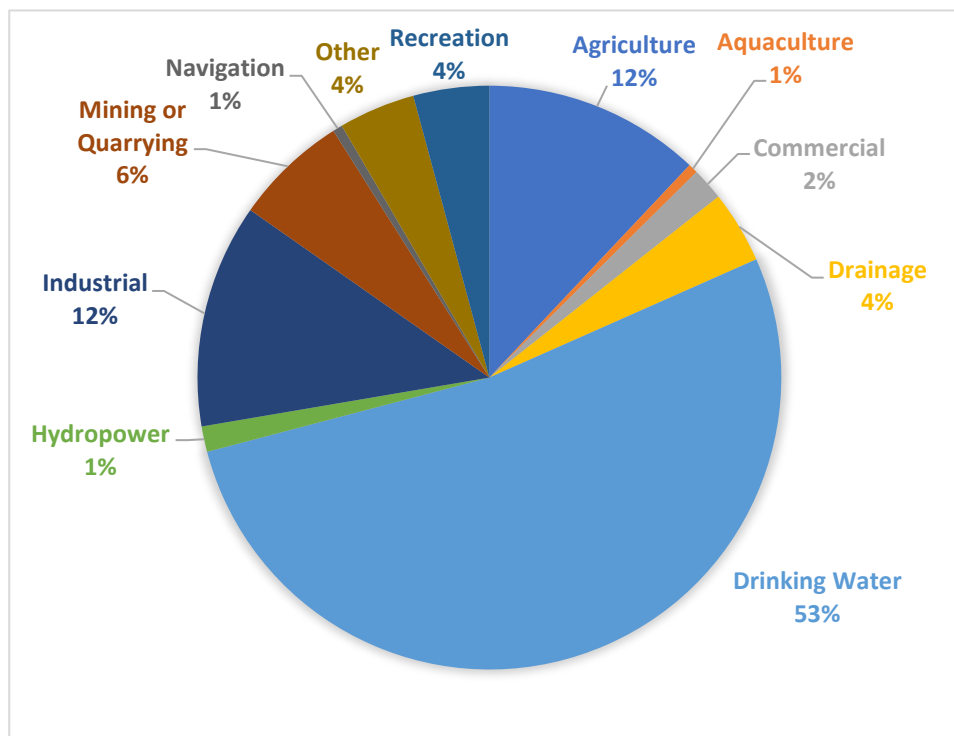
How does abstraction vary across Ireland?

Registered abstractions

The EPA register currently lists 2,619 abstractions across the country, with a large variation in the number of abstractions between counties (Figure1). Abstractions for drinking water are by far the most common type of abstraction (58%) with abstraction for industrial (12%) and agricultural (12%) uses being the next most common purposes.

¹⁴ The 2020 report can be found [here](#).

¹⁵ [How we get our water – EPA presentation as part of a Health & Wellbeing Webinar to Oireachtas staff 21/07/2022](#)

Figure 1 Number of registered abstractions per county.**Figure 2 Proportion of registered abstractions by type.**

Unregistered abstractions

Currently, the total number of unregistered abstractions (e.g. private wells, smaller abstractions for irrigation, etc.) is unknown. Current estimates put the number of private wells, so called 'exempted supplies', which abstract less than 10 m³/day and/or serve fewer than 50 people, **at over 170,000**¹⁶. The data on the geographic spread of these wells could not be compiled in the time available.

Assessing cumulative impacts

It is important to consider cumulative effects when considering water abstractions. While any one abstraction, considered by itself, might not pose a threat to a water body or groundwater system, multiple abstractions on the same water body can lead to negative impacts. At present the EPA assesses cumulative impacts through the use of a hydrological model¹⁷ ([Qube model](#)), and the abstractions are periodically imported from the register to the Qube model for analysis. **The Qube model is not connected directly to the abstractions register, so at present EPA does not assess the impact of each abstraction added in 'real time' to the register.** The EPA can run scenarios in the Qube model e.g., to assess potential/proposed abstractions as part of an overall cumulative assessment.

How do other countries regulate abstraction?

Abstraction regimes vary from country to country, with differing requirements in terms of registration and licencing. In advance of PLS on this Bill, L&RS conducted a comparison¹⁸ of water abstraction thresholds in selected EU Member States, where surface water and/or groundwater abstraction is regulated. While not prescriptive, it forms a reference point for comparison. An examination of Table 2 will note that the **Bill proposes a significantly higher threshold for registering an abstraction** compared neighbouring jurisdictions (i.e. UK countries). The issue of thresholds for abstraction was a **Key Issue identified during Pre-Legislative Scrutiny**¹⁹ of the General Scheme of the Bill, with the Committee noting that significant concerns were raised on this point by public bodies²⁰ and environmental NGOs.²¹

In response to the issue of thresholds, the Department has stated²²:

- *"The thresholds as established provide a risk-based, graduated and proportionate regime for the registration and licensing of abstractions to ensure that smaller scale abstractions (e.g.*

¹⁶ [Drinking Water Report 2013](#)

¹⁷ A hydrologic model is a simplification of a real-world system (e.g., surface water, soil water, wetland, groundwater, estuary) that aids in understanding, predicting, and managing water resources. Both the flow and quality of water are commonly studied using hydrologic models.

¹⁸ [Pre-Legislative Scrutiny of the General Scheme of the Water Environment \(Abstractions\) Bill 2020: Report to the Joint Committee on Housing, Local Government and Heritage](#)

¹⁹ Pre-legislative scrutiny of the General Scheme of the Bill was undertaken by the Joint Committee on Housing, Local Government and Heritage, which began stakeholder hearings on [20 October 2020](#) and [5 November 2020](#). The Joint Committee summarised its PLS findings in January 2021 in its [Report on Pre-Legislative Scrutiny of the General Scheme of the Water Environment \(Abstractions\) Bill](#).

²⁰ [General Scheme of the Water Environment \(Abstractions\) Bill 2018 Public Consultation Submissions A-I](#)

²¹ [SWAN Ireland - Water Environment \(Abstractions\) Bill](#)

²² This information was sent to the L&RS by the Department in response to L&RS' query on the issue.

those by most farmers) are not subject to unduly onerous requirements, or similar requirements to the largest and most environmentally significant abstractions.

- Provision is included at section 16, enabling the Minister to order for the reduction or variation of registration and licensing thresholds following a recommendation by the EPA.
- There is a three tiered approach to registration and licensing. The minimum threshold for registration is 25m³ per day. This threshold has been in place since the coming into effect of the European Union (Water Policy) (Abstractions Registration) Regulations 2018. The second tier ensures abstractions above the registration threshold, but below the licensing threshold (25-1,999m³ per day) will be assessed for their significance in relation to the environmental objectives of the relevant waterbody, and may also be subject to the requirements of the licensing regime.
- The 3rd tier is the mandatory licensing threshold of 2,000m³ per day. This is covered in section 18 of the Bill.”

Table 2 Summary of water abstraction thresholds for selected EU counties/regions.²³

Country or region	Abstraction threshold for mandatory registration (m ³ /day)	Comments	Abstraction threshold for licensing (m ³ /day)	Comments	Requirement for environmental impact assessment report (EIAR)
Ireland	25	Abstraction per 24hr period	2,000		Newly registered/licensed abstraction needs an EIAR and an appropriate assessment (AA) where “significant” abstraction of between 25 and 1,999 m ³ occurs in any 24-hour period (notably for at risk water bodies), and for licensed abstractions
Northern Ireland	10		20		Agricultural water management, over 200 m ³ per day
Scotland	10		50		Marine, coastal, transitional waters for power stations require EIAR
Wales			20		Licensing for 28 days+
France	10,000 per year (7000/ year in water scarcity zones)	Equivalent to 27.4 m ³ per day (19.2 m ³ per day in scarcity zones)		Abstraction charges in place	
Belgium		Groundwater only		Abstraction charges in place	

²³ In examining Table 2 above, it should be noted that where no information is provided, it was not found by the author during the PLS research, rather than the inference that it does not exist or apply.

Country or region	Abstraction threshold for mandatory registration (m ³ /day)	Comments	Abstraction threshold for licensing (m ³ /day)	Comments	Requirement for environmental impact assessment report (EIAR)
Lombardy	40 litres per second	Equivalent to 3,456 m ³ per day			
Portugal	10 or serving 50 people	Applies to abstraction for human consumption			
Denmark	Permitted	Surface water abstraction prohibited	Abstraction charges in place		
Finland			250	Permit required for water utility	

What are the implications of the Bill?

At the time of writing, the Bill had not yet been published and therefore the analysis in this paper is based on a near final draft of the Bill which the L&RS has had sight of.

What the intended Bill does

- The intended Bill proposes to provide general binding rules governing the abstraction of groundwater and for a registration, licensing and control regime for existing and new surface water and groundwater abstractions.
- The intended Bill will repeal and replace the [Water Supplies Act 1942](#), section 4 of the [Local Government \(Sanitary Services\) Act 1964](#), and subsections 9(2) and 9(8) of the [Local Government \(Water Pollution\) Act 1977](#), and revokes [S.I. No. 261/2018 - European Union \(Water Policy\) \(Abstractions Registration\) Regulations 2018](#), subject to certain transitional arrangements.
- The Water Abstractions Register, created under the 2018 regulations, will continue to be maintained and updated in accordance with transitional arrangements.
- The threshold for **registration of abstractions remains the same** at 25 m³ per day.
- The Bill **is intended to create a requirement for all abstractions of over 2,000 m³ to be licenced** by the EPA. Abstractions between 250 to 1,999 m³ can also require a licence if they are deemed by the EPA to be linked to a waterbody or water bodies at risk from abstraction.
- The registration and licencing provisions of the intended Bill will be administered by the EPA.

- The Bill **provides certain powers to Irish Water in relation to water abstraction**. Provision is also made to protect public drinking water supplies in times of extreme weather (e.g. droughts or floods) or for reasons of human health or safety.

Implications

Increased information, regulation and monitoring of abstractions

The intended Bill will certainly increase the volume of water data generated and available to the EPA. It contains provisions²⁴ that **allow the Minister to specify or reduce thresholds for the registration and/or licencing** of abstractions. Additionally, the intended Bill allows the **EPA to require licencing of abstractions** below the usual threshold where the EPA has formed an opinion that a licence is required in order to facilitate the proper regulation of the abstraction.

However, as the Bill intends to retain the registration threshold at 25 m³, the question remains as **to how the cumulative impacts of abstractions below this threshold** can be effectively forecast, detected and mitigated.

Enabling Irish Water to progress the Eastern and Midland Water Supply Project

According to the PLS report, the proposed legislation will “*ensure that an appropriate legal framework and consenting process is in place to facilitate consideration and determination of the [Eastern and Midlands Water Supply Project](#) to abstract water from the River Shannon, and for any other large scale water abstractions for public drinking water supplies or other purposes*”.²⁵

²⁴ For example Section 16 (1) of the draft Bill

²⁵ [2021-01-29_report-on-pre-legislative-scrutiny-of-the-general-scheme-of-the-water-environment-abstractions-bill_en.pdf \(oireachtas.ie\)](#)

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