

Sustainable Water Network (SWAN)

General Scheme of the Water Environment (Abstractions) Bill

- Response to Public Consultation -



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1. INTRODUCTION TO SWAN

The Sustainable Water Network (SWAN) is an umbrella network of 24 of Ireland's leading environmental NGOs, national and regional, working together to protect and enhance Ireland's aquatic resources through coordinated participation in the implementation of the Water Framework Directive (WFD), Floods Directive, Marine Strategy Framework Directive (MSFD) and other water-related policy and legislation. SWAN member groups are listed in Appendix I. SWAN has been actively engaged in Water Framework Directive (WFD) and other water policy implementation at both national and River Basin District (RBD) level since 2004, responding to water-related public consultations and representing the environmental sector on the Irish Water Stakeholder Forum, the National Rural Water Services Committee and the National Water Forum. SWAN will shortly be publishing the research report, *'Water Abstraction: Interactions with the Water Framework Directive & Groundwater Directive and Implications for the Status of Ireland's Waters'*.

2. BACKGROUND & CONTEXT TO SWAN SUBMISSION

SWAN's welcomes the opportunity to comment on the 'General Scheme of the Water Environment (Abstractions) Bill 2018'. SWAN notes that a system of registration and prior authorisation for water abstraction has been required by the WFD since 2012 and to date is almost 6 years late. We therefore welcome the introduction of a bill to address this lacuna. This response is based on the SWAN commissioned report, *'Water Abstraction: Interactions with the Water Framework Directive & Groundwater Directive and Implications for the Status of Ireland's Waters'* and on the outputs of a SWAN member workshop, also based on this research. The recommendations in the current document are drawn directly from this research. However, we also submit the research report in full as part of the SWAN response to this consultation (Appendix I).

3. REQUIREMENTS OF THE WFD

The requirements of the WFD are well rehearsed elsewhere but include the attainment of 'good' status for all surface and groundwater bodies and the prevention of their deterioration (unless exemptions, under strict criteria, are applied). Any assessment or critical analysis of the proposed bill, therefore, must

be conducted against those overarching requirements. Specifically in relation to abstraction, the Water Framework Directive requires:

- *“Estimation and identification of significant water abstraction for urban, industrial, agricultural and other uses, including seasonal variations and total annual demand ...”*;
- The identification of all waterbodies abstracted for human consumption¹ (Art. 7); and
- The establishment of *“controls over the abstraction of fresh surface water and groundwater, and impoundment of fresh surface water, including a register or registers of water abstractions and a requirement of prior authorisation for abstraction...”* (Art. 11.3(e))²

In addition, Article 4(1) requires that *“Member States shall .. ensure a balance between abstraction and recharge of groundwater,”*

The approach adopted by the Directive is not therefore not to prohibit or regard abstraction as inherently undesirable (unlike the introduction of pollutants) but rather as engaging the terms of the Directive only once an abstraction has environmental consequences prohibited by the Directive. It is this approach which underpins the central abstraction ‘tool’ in the Directive – the obligation to measure and collate abstractions in the central register.

While Member States are entitled to exempt abstractions which *“have no significant impact on water quality”*, an exemption presupposes, in our view, that such an abstraction is at least measured and assessed in the first instance before an exemption could be granted. The latitude in the directive does not provide justification for the exclusion of the majority of abstractions in the State from registration and licensing.

Furthermore, the language of Article 11.3(e) is of significant interest. Member States must (‘shall’) introduce ‘controls’, including but not limited to the licencing and register. The wording of the Directive therefore makes it clear that those two obligations are inclusive but not exhaustive of mechanisms which a Member State must introduce. i.e. even if satisfactorily in place, those two elements do not exhaust the Member State’s obligations to ensure, for example, a balance between abstraction and groundwater recharge rate.

¹ providing more than 10 m³/day as an average or serving more than 50 people, and those bodies of water intended for such use

² Member States *‘can exempt from these controls, abstractions or impoundments which have no significant impact on water status’*.

4. IMPACTS OF ABSTRACTION

A comprehensive review of the potential impacts of abstraction on a full range of hydrological and ecological parameters are set out in the attached research report (Appendix I). Pressure of water abstraction can have wide-ranging impacts on the hydrological, hydrogeological and ecological parameters of surface and groundwater bodies and GDWDEs. There are complex interactions between water abstraction and its aquatic environment and the impacts of these depend on a range of factors that include: the volume of water abstracted; the time and duration of abstraction and return to a water body; the hydrology and morphology of water bodies; and the degree of connectivity between different components of the hydrological cycle. Abstraction resulting in the lowering of groundwater levels can negatively impact GDWDEs. The impacts of water abstraction are largely dependent on the relative rate of abstraction and discharge. The impacts of abstraction are generally only experienced when localised discharge is lower than abstraction, yielding reduced baseflows in rivers, lakes and groundwater bodies. These reduced flow volumes (and related velocities), and lower flow levels will be particularly exacerbated during periods of natural low flow.

This has hydrological, hydrogeological, morphological, and ecological implications for water bodies. With regards to hydrology, reduced flow in rivers decreases peak flows and floodplain inundation and yields fluctuating lake water levels, with direct impacts to aquatic biota. Flow variation can alter water quality with changes to turbidity, and dissolved and suspended material. The ability of water bodies to dilute contaminants is also reduced. Within hydrogeology, unsustainable water abstraction lowers groundwater levels. This affects connected surface water bodies, soil surface layers and connected GDWDEs. In its most extreme, it can result in the drying out of wetlands. The lowering of groundwater levels can also result in inflow of saline or surface waters, altering the chemistry of the GWB, and reducing its ability to dilute contaminants. Poorly maintained abstraction wells can also provide a conduit for contaminants to GWBs. Morphological changes include changes to the width and depth of water body, altering flow dynamics, sediment transport and aquatic habitats (e.g. riffles and pools, riparian, littoral).

All of the above changes can have a major impact on the biota of the water body, and dependant habitats. Aquatic flora, invertebrate fauna and fish fauna can all be altered by changes to the hydrology, hydrogeology and morphology of aquatic habitats. Physical changes to the environment can reduce the habitat available to organisms and reproductive and behavioural changes can alter species assemblages.

Negative alteration of the biological, hydromorphological and chemical elements for status classification will result in the downgrading of a water body, resulting in a breach of the WFD. Abstraction controls are

required where abstraction is assessed to pose a risk to any of these classifying elements which would result in the water body being classified either at less than good status, or (if within-status trends indicate) are At Risk of deterioration to a lower status.

Areas with low groundwater recharge rates will be more susceptible to water abstraction.

SWAN acknowledges that water abstraction has not been identified as a highly significant issue nationwide by the characterisation and risk assessment process and that it is an issue in only 4% of at risk waterbodies, (3% of rivers (98), 9% of lakes (73) and 4% of groundwater bodies (23)). The SWAN report supports this, stating that *'In Ireland, given the high precipitation levels that are experienced, the risk of abstraction impacts on a national scale³ is considered by the authors to be low.'*

However, the SWAN research also shows that the impacts of abstraction vary widely temporally and spatially and have significant potential to pose a risk locally and in the catchments of sensitive waterbodies and associated groundwater dependent terrestrial ecosystems (GWDEs), especially in combination with other abstractions. This is especially pertinent given that the occurrence of multiple stressors to a water body (e.g. nutrient enrichment combined with abstraction) has been shown to have a larger impact than each stress individually (See Section **Error! Reference source not found.** of research report). Of the 513 designated GWBs in Ireland, 223 are designated either "At risk" or "Probably at risk" (for all factors, not just abstraction). Within these GWBs, 185 intersect with regions of low recharge rate (<50mm / yr.), with 130 being "At risk", and 55 "Probably at risk". It is these regions that could be most acutely affected by the impacts of abstraction as water bodies are already experiencing risk of downgrading in status, and recharge rate is low.

Similarly, SACs could be more sensitive to water abstraction in regions of low GWB recharge rate. 251 of 498 SACs (50%) intersect with regions of low recharge rate (<50mm / yr.). Again, in these regions, water abstraction is likely to have increased impact on the environment and increased levels of protection could be beneficial.⁴ There can also be significant cumulative and upstream impacts of abstractions, especially on the re-charge implications which may see feeder streams run dry. These may be vital

³ SWAN's emphasis

⁴ Craven, K. Emerson, H., Kenny, J., McLoughlin, N., O'Reilly, C. (draft report) Water Abstractions Interactions with the Water Framework Directive & Groundwater Directive and Implications for the Status of Ireland's Waters. Prepared under contract for SWAN.

habitats, spawning grounds, etc.⁵ Water abstractions are also causing significant pressures on waters within the Eastern River Basin District, due to the population density of the major urban areas in the East.⁶

There are also examples of extractive industries having impact on the groundwater levels of adjacent GWBs. Where quarries abstract large amounts of groundwater from a quarry sump, the water is typically discharged to a receiving watercourse down gradient of the quarry, to avoid recirculation. If the invoked radius of influence extends to the watercourse as it flows adjacent to the quarry, or to sections of the watercourse up gradient of the quarry, then there is a risk of reducing surface water flows to negligible rates. Examples of this include: Bettystown GWB in Co. Louth, which is considered to be 'at risk' due to quarry dewatering; and Midleton GWB, considered 'at risk' by having failed the water balance test due to groundwater abstractions (>80% recharge; with the actual ratio being 95%)⁷ and the potential for saline intrusion from quarry dewatering along the south coast.

INADEQUATE INFORMATION TO ASSESS IMPACTS

While there are specific examples in the scientific literature and local authority reports of impacts occurring to water bodies (See above and research report, Appendix I), according to the authors of the SWAN report, there is currently not adequate information on existing abstraction points to make fully informed and quantified assessments on the impacts of abstraction on a local scale. In fact, this has been recently highlighted, with researchers unable to reliably screen abstraction pressures due to inadequate baseline conditions and lack of data on abstraction.⁸

The existing register of abstractions in Ireland is very limited. While it includes most public and group water schemes and licensed industrial schemes (and provides an abstraction rate of 575,000 m³/day), it is SWAN's understanding that it does not include unregulated abstractions such as the up to 200,000 private domestic wells,⁹ >150,000 unregulated agricultural groundwater abstractions¹⁰, hotels, hospitals and schools. Due to the data gaps, the register is almost certainly underestimating the total number of

⁵ Eamonn Moore, angler, pers. comm.

⁶ ERBD (2009) Abstraction Pressures – National POM/Standards Study. The Assessment of Abstraction Pressures in Rivers in Ireland

⁷ CDM (2009). Groundwater Abstraction Pressure Assessment - Final Report. 39325/PP/DG 43-S, pp102

⁸ Webster K.E., Tedd K., Coxon C. & Donohue, I. (2017). Environmental flow assessment for Irish rivers. Environmental Protection Agency Research Report 2014-W-DS-21.

⁹ Wright, G. 1999. How many wells are there in Ireland? The GSI Groundwater Newsletter, Vol. 35.

¹⁰ Webster K.E., Tedd K., Coxon C. & Donohue, I. (2017). *Environmental flow assessment for Irish rivers*. Environmental Protection Agency Research Report 2014-W-DS-21. p55.

abstraction schemes or points across the country, and as a result, the total abstraction volumes is likely to be under-represented. According to the authors of the SWAN research report, *'This makes it impossible to accurately assess the impacts of abstraction in Ireland.'*

It is SWAN's understanding that this most recent database of abstractions, which fed into the EPA characterisation and risk assessment is the National Abstraction and Discharge Database developed by RPS Engineers Ltd in 2016. There have been various iterations of the register, which are covered comprehensively in the SWAN research report, but while the register was due to be updated in 2016, the updated register is not publicly available and appears to still rely on previous (incomplete) datasets. Apart from capturing significant new data from the National Federation of Group Water Schemes (NFGWS), and undertaking field surveying of some 791 of these abstraction points, it is not apparent from the RPS report that the lacunae identified from 2005 and 2009 have been substantially addressed. This is borne out by a comparison of the number of abstraction points identified in the RPS report with those used in the earlier reports. Overall numbers have crept up from approximately 2000 (in the earlier reports) to approximately 2,600 in the RPS report of April 2016¹¹.

A good insight into the deficiencies in the primary data is provided by the example of the IPC regime. RPS noted that they were required under the scope of the project to review abstractions associated with IPC/IE licenced installations/facilities. However, *"Of the existing 709 IPC/IE licences, RPS concentrated their review of abstraction information to the 328 sites, which are located within the Tier 1 "At Risk" catchments and was only able to assess information on abstractions from 114 IPC/IE installations/facilities.* and, as outlined in detail in the research report, questions remain over the comprehensiveness of the current abstraction database (Section **Error! Reference source not found.** of report) and thus this could be an underestimate of water bodies that are At Risk.

SWAN would therefore respectfully contend that RPS was not in fact in a position to conclude *"With the information collated from Irish Water together with abstraction information received from the GSI, EPA and Local Authorities, RPS was able to develop a national abstraction database."* While RPS clearly did valuable work in compiling metadata from disparate sources, engaging in validation of some of that data and building a technology solution for an overall national abstraction database, significant concerns remain around the quality and comprehensive nature of that data.

¹¹ RPS (2016). Catchment science desk studies and field based assessments - Development of a national abstraction database and a national discharge database. RPS Consulting Engineers for Environmental Protection Agency.

There are significant implications from this lack of information since the EPA's assessment of abstraction amounts used for the risk assessment are *"based on best available information of known abstractions from a recently collated EPA abstractions database"*¹² by which is meant the above incomplete RPS developed National Register. SWAN has serious concerns that this could well mean that the EPA risk assessment for abstraction is not accurate.

It is in this context that we strongly believe that the registration scheme being proposed is wholly inadequate (see below) in order to inform an effective control system for water abstraction.

5. REGISTER OF ABSTRACTIONS

An absolute baseline for an abstraction management system must be an understanding of the location and volumes of abstractions over time, i.e. where, when and how much. The draft River Basin Management Plan 2018 – 2021¹³ acknowledged this, saying, *"a comprehensive and maintained national register of water abstractions is essential in order to assess and manage the potential risk of over-abstraction"*. This is especially the case for a pressure such as abstraction which has the potential to cause cumulative impacts, especially in sensitive and/or high status catchments. However, the proposed Bill provides for a register under which the substantial majority of abstractions in the State will remain unaccounted for, due to the fact that the proposed threshold for registration under regulations is far too high at 25 cubic metres per day. SWAN strongly disagrees with this approach and recommends the establishment of a coherent National Abstraction Register as follows:

- The Register should be publicly available to permit analysis of abstraction impacts by interested parties. While there is not a WFD requirement to register all abstractions (exempting ones that have *"no significant impact on water status"*), there is an inherent need to assess all abstractions to decide which ones are significant. This should form the basis of a registering process which encompasses all abstraction points.
- All abstraction points, regardless of volume, are included on the register.

¹² DoHPLG (2018) River Basin Management Plan for Ireland 2018-2021. Department of Housing, Planning, Community and Local Government.

¹³ DoHPCLG (2017) Public consultation on the river basin management plan for Ireland 2018-2021. Department of Housing, Planning, Community and Local Government.

- The agency in charge of the register needs to be resourced and empowered to collate extant abstraction data from inter alia local authorities, the IPC regime administered by the EPA, Geological Survey and NFGWS;
- That agency needs to be resourced to investigate non-declared or currently unknown abstraction pressures and to require the compilation of data from those abstraction points in a format agreeable to it;
- That agency needs to be given enforcement powers and a right of entry to private property in relation to its abstraction and licencing function;
- Small abstractions of less than 10 m³/day are included on the register, but do not need licencing. Instead, similar to Scotland, users must comply to general binding rules to minimise impacts’
- Small abstractions of less than 10 m³/day are metered to provide information on extent and duration of abstractions. This information is made available to the agency in charge of the register so that cumulative impacts from these can be assessed; and
- The database must be made publicly available.

6. LICENSING OF ABSTRACTIONS

SWAN strongly disagrees with the 2000m³ exemption threshold for abstraction licencing. A coherent licencing regime provides the framework for flexible, targeted and effective management of abstractions causing an impact. It facilitates the accurate measurement of abstraction volumes, full assessment of the impacts of abstraction to water bodies, and a structure through which to introduce measures where and when necessary to address impacts. This needs to be risk-based (based on comprehensive and accurate data) sufficiently flexible and responsive to the particular situation, and take into account cumulative impacts, periodicity, and requirements for responsiveness to rapid change within the water system. It also needs to address legacy issues through the review of existing abstractions. The licencing system proposed appears to provide for few of these things and in SWAN’s view will not be an effective tool in managing the impacts of abstraction. While we acknowledge that some of these shortcomings may be addressed in regulations arising once the Bill is enacted, we believe that, as minimum, the threshold should be reduced significantly in the Bill.

To be effective, all abstractions likely to pose a risk to water environments must be captured within the licencing regime. For this, SWAN reiterates the recommendations of the research report: That all

abstractions over 10m³/day should be included within the licencing regime, alongside abstractions identified within a vulnerable water body where risks of abstraction pressure have been identified. According to the authors, *'This de minimis level of 10 m³/day is chosen in the absence of adequate scientific data that can provide a rigorous threshold of safe values, but should capture most significant points of abstraction and is in keeping with thresholds for countries with a similar climate to Ireland (Scotland and N Ireland).'* This level should change based on the information gathered from abstraction points and technical assessments of licensees must show that both groundwater and surface water abstractions, in terms of both their overall rates and abstraction regimes, do not compromise environmental flows and levels in water bodies. This relies on further work to develop ecology-flow relationships. Priority should be given to high-status sites, and sites on the threshold between good and moderate status, as well as those for which the qualifying interests may be sensitive to hydrological change. Significant work has been done by the Geological Survey in estimating recharge rates across a range of hydrogeological settings and this work is ongoing. These studies will enhance our understanding of the sustainability of specific abstractions.

Given most small abstractions discharge to the same water body as abstractions occur SWAN believes, based on the research report, that it is impractical and onerous to licence less than 10 m³/day, with the exception of vulnerable water bodies or sensitive areas,.

For this licencing regime, the following is recommended. SWAN acknowledges that some of the detail may be included in later regulations but wish to put forward the recommendations formally as part of this consultation process.

- Licensing is introduced on a phased basis with the aim of protecting water bodies, and is based on accurate information.
- This regime should be predicated on bi-annual renewals allowing regular oversight of the abstraction and licencing pressure on any given water body.
- All abstractions greater than 10 m³/day (or subsequent risk-based threshold value) should be licensed. A means of demonstrating compliance or exemption from this threshold is required (i.e. metering).
- Proposed abstractions over 100 m³/day should be further reviewed by a competent agency (e.g. local authority/EPA). This should include assessment of potential impact on groundwater flows and levels, surface water flows and levels, and an Ecological Impact Assessment.

- Information on location of abstraction point and rate of extraction (daily, or at a minimum, monthly rates are required) must be provided, including existing abstraction points.
- In order to address spatial and temporal variability regarding abstraction impacts, this licensing regime should be flexible to permit greater scrutiny where impacts of abstraction are likely to be greatest, particularly: in water bodies identified as “At Risk” from water abstraction; in areas close to GWDTes; in regions of low precipitation and low GW recharge rate; and in regions due to cumulative impacts from abstraction or where knowledge of impacts are unknown. Where required, this would include abstractions below 10m³/day in these areas. The following is specifically recommended:
 - A flexible licensing regime must be in place for abstractions below 10 m³/day in vulnerable water bodies, sensitive areas, or where cumulative impacts are likely.
 - Abstractions from designated protected areas should be liable for further technical assessment. SACs and SPAs should be subject to an Appropriate Assessment regardless of volume extracted and abstractions from NHAs should also be subject to an Ecological Impact Assessment.
 - Abstractions greater than 10 m³/day and less than 100 m from a GWDTes would require further technical assessment to determine specific impact on water body and any mitigating measures necessary with input from NPWS or independent ecologist.
- All water bottling plants should be licensed and included on a national register regardless of the abstracted volume.
- Finally, it is recommended that the licensing authority have the power to designate particular water bodies or catchment areas as areas of significant concern and prescribe bespoke conditions for those areas, even for de minimis levels of abstraction until ‘good status’ had been restored.

7. MANAGING ABSTRACTIONS: MEASURES TO ADDRESS ABSTRACTIONS IMPACTING ON THE ENVIRONMENT

As stated in the consultation document, the purpose of the proposed Bill is to *'provide for the introduction of a regime for the control of the abstraction of water..'* Fundamental to a system of control, are management measures or actions to control the activities of abstractors, including limiting abstraction levels if necessary in order to mitigate /prevent the environmental impact of the abstraction.

In preparatory work for the first RBMP cycle, it was proposed that following a review process, any waterbodies that are determined to still be at risk of failing to meet WFD objectives due to abstractive pressures may require supplementary measures to manage the abstraction.¹⁴ However, supplementary measures are not definitively provided for in the proposed Bill. The explanatory note for Head 9 describes it as providing *'..for the detail of the licensing process to be set out in regulations.'* and it does include a welcome proposal that includes concrete management measures, in particular:

- the setting of a limit on the amount of water which a licensee can abstract or the termination of an abstraction,
- conditions to be set in line with RBMP objectives and
- the need to prevent deterioration in water status

However, SWAN notes that regulations under this Head only 'may' include these provisions. We recommend changing the wording so that these very necessary management measures are definitely and unequivocally provided for.

8. SPECIFIC RESPONSES TO CONSULTATION DOCUMENT

8.1 Head 2 – Interpretation

SWAN welcomes the clause which includes the 'in combination' impacts of an abstraction in the definition of a "significant abstraction". However, the definition appears to focus on a waterbody failing

¹⁴ CDM (2009). Groundwater Abstraction Pressure Assessment - Final Report. 39325/PP/DG 43-S, pp102

or likely to fail good status or potential. The definition should also include abstractions which cause or are likely to cause a waterbody to deteriorate in status (e.g. from high status to good status)

8.2 Head 5 – General Binding Rules

While it is unclear how the general binding rules will be enforced, SWAN particularly welcomes the requirement that *'there must be a means of measuring the rate of the abstraction'*. This would appear to mean that all abstractions must be metered which SWAN fully endorses.

SWAN very strongly disagrees with the proposal in the consultation document that only abstractions of *'25 or more cubic metres in any 24 hours..'* be registered and strongly challenge the assertion in the consultation document that what is proposed provides for *'..a regime for the control of the abstraction..'* given that the majority of abstractions would not be registered and so will likely remain unknown, unrecorded and so not *'controlled'*.

SWAN recommends that ALL abstractions in the state should be registered in order to form the basis of an effective control system. Please refer back to Section 5 for our detailed response, including recommendations, regarding abstraction registration.

SWAN takes issue with the statement in the consultation document that because *'a Member State can exempt from those controls abstractions which have no significant impact on water status'*, it is accordingly *'..proposed to exempt from registration or licensing abstractions of less than 25 cubic metres per day.'* SWAN would argue that one most definitely does not follow from the other and that in order to assess the significance of an abstraction, it is necessary to know where it is, how much is abstracted in relation to the flow rate or recharge rate of the source waterbody, taking into account the in-combination effect of other abstractions from the waterbody.

SWAN further believes that it is wholly inappropriate to choose a threshold *'for consistency'* with *'regulations made under Section 9 of the Local Government (Water Pollution) Act 1977'*. The WFD requires an entirely new, integrated and ecologically focused system of water management, whereas the Water Pollution Act is part of a legacy of fragmented and narrowly focused water-related legislation. It must be the aim of the government to modernise water legislation in line with the requirements of the WFD rather than tying new legislation to laws from the last century.

Finally, it is not factually correct to state that the approach being proposed '*mirrors that taken in Scotland and Wales*'. In those jurisdictions, only abstractions below 10m³ are exempted. What is being proposed in Ireland is 250% higher than this threshold.

8.3 Head 6 – Register of Abstractions

The explanatory note for Head 6 states that the establishment of the register of abstractions (over 25m³) was '*to allow the Agency to build up a nationwide picture of the extent and size of current abstractions in order to better manage abstractions in areas of high risk in future.*' SWAN strongly disputes the contention that the register will provide such a nationwide picture. In fact, it will provide an extremely limited picture of only ~3,000 of the largest abstractions in the country and will fall very far short of providing information on the '*extent and size of current abstractions*'. Furthermore its use as a management tool will be extremely limited, given that abstractive pressures are likely to mostly be local and possibly due to cumulative impacts in conditions of low flow / recharge and may very well not be captured by the register.

8.4 Head 7 – Requirement for a License to Abstract; Head 9 – Licensing of existing abstractions and Head 10 – Licensing of abstraction commencing after the prescribed date

It is SWAN's position, based on independently commissioned research that the threshold of 2,000m³ for the requirement of a license is far too high and that the licensing regime as proposed does not constitute an effective an effective mechanism to manage abstractions in the State but rather an administrative exercise.

While we note that abstraction over between 250m³ and 2000m³ will be licensed if they have been '*..deemed to be a significant abstraction by the Agency..*', SWAN has serious concerns that the EPA risk assessment of abstractions was based on a very incomplete abstraction register, which does not include up to 200,000 private domestic wells,¹⁵ >150,000 unregulated agricultural groundwater abstractions,¹⁶

¹⁵ Wright, G. 1999. How many wells are there in Ireland? The GSI Groundwater Newsletter, Vol. 35.

¹⁶ Webster K.E., Tedd K., Coxon C. & Donohue, I. (2017). Environmental flow assessment for Irish rivers. Environmental Protection Agency Research Report 2014-W-DS-21. p55.

and 420 golf courses, which the CDM 2009 groundwater abstraction report¹⁷ estimates range in abstractive rates from 10 m³/day up to 1,000 m³/day. (Please refer to Section 6 for SWAN's more detailed input on this.) This raises concerns regarding the procedure by which the EPA will assess whether an abstraction is 'significant'. Indeed, the presence may be unknown if it falls below the registration threshold and thus the mechanism for detecting and assessing it seems flawed, or at least, unclear.

8.5 Head 8 – Impact of Abstractions on the status of surface water and groundwater

The provisions of this head as set out and as described in the Explanatory Note of the consultation paper are unclear. In particular the distinction is unclear in terms of treatment of existing abstractions as compared to future abstractions.

SWAN is concerned that this head appears to provides for, and could result in, an incomplete and inadequate assessment of abstractions by the EPA. This is because it the EPA to undertake a review of the environmental impact of existing abstractions on water *status* '*..using the register of abstractions established [under Head 6 of the Bill], and shall identify all significant abstractions in a catchment.*' The weakness in this proposal is that because the register will be extremely limited, restricted to abstractions over 25m³/day, it is likely that any assessment of environmental impact or risk assessment will similarly be incomplete. Furthermore, it is not clear to SWAN how the EPA is to '*..identify all significant abstractions in a catchment..*' if the majority are not required to register and thus may well be unrecorded.

While SWAN welcomes public consultation on the matter, we are concerned that this head appears to provide for a final definitive list of significant abstractions to be developed by the EPA '*..which thereafter will provide the basis for the estimation of abstraction pressures on the quantitative status of waters and the development of programmes of measures..*' The SWAN report, supported unanimously by stakeholders interviewed as part of the research, recommended a flexible and iterative approach to abstraction management, which is responsive to spatial and temporal conditions and changes. A final definitive list, as proposed, represents the opposite to a flexible responsive regime and ties the EPA to a register of abstractions that will be incomplete and could very quickly prove to be out of date.

¹⁷ CDM (2009a). Groundwater Abstraction Pressure Assessment - Final Report. 39325/PP/DG 43-S, pp102.

SWAN does not agree with the approach being proposed, if we understand it correctly, whereby the environmental impact of an existing abstraction on water status is only to be reviewed if it is included in the register, and thus only over 25m³. This completely discounts the cumulative impacts of multiple abstractions on a vulnerable waterbody e.g. a groundwater body with a low recharge rate and associated designated Groundwater Dependent Terrestrial Ecosystem (GWDTE) and, we would contend, does not fit with the integrated catchment management approach being developed and delivered by the EPA for other pressures.

SWAN does not understand what is being proposed for new abstractions; in particular whether these too will only be subject to assessment if they are over 25m³. Clearly SWAN does not agree that an abstraction can only be deemed to be significant if it is over this level.

8.6 Head 13 - Power of Irish Water to take a supply of water

While the explanatory note states that this Head ensures that any Irish Water abstraction '*is in accordance with sustainable .. water use...*', SWAN is concerned that there is no specific provision setting conditions on any Irish Water abstraction to ensure sustainability and a balance between abstraction and recharge / flow. We would recommend that this be addressed.

APPENDICES

APPENDIX I

See accompanying document, research report 'Water Abstraction: Interactions with the Water Framework Directive & Groundwater Directive and Implications for the Status of Ireland's Waters'.

APPENDIX II

SWAN Member Organisations

| SWAN National Groups | | SWAN Regional & Local Groups | |
|----------------------|--|------------------------------|---|
| 1. | An Taisce | 14. | Carra Mask Corrib Water Protection Group |
| 2. | Bat Conservation Ireland | | |
| 3. | Birdwatch Ireland | 15. | Cavan Leitrim Environmental Awareness Network |
| 4. | Coastwatch Europe Network | | |
| 5. | Coomhola Salmon Trust Ltd. | 16. | Celebrate Water |
| 6. | Eco-UNESCO | 17. | Cork Environmental Forum |
| 7. | Friends of the Earth | 18. | Dodder Action |
| 8. | Friends of the Irish Environment | | |
| 9. | Irish Peatland Conservation Council | 19. | Longford Environmental Alliance |
| 10. | Irish Seal Sanctuary | 20. | Macroom District Environmental Group |
| 11. | Irish Whale and Dolphin Group | 21. | River Shannon Protection Alliance |
| 12. | Irish Wildlife Trust | 22. | Save The Swilly |
| 13. | Voice Of Irish Concern for the Environment (VOICE) | 23. | Slaney River Trust |
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APPENDIX III

SWAN Board of Directors

| SWAN Board of Directors: | |
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| Mark Boyden, Chair | Coomhola Salmon Trust |
| Mindy O'Brien, Vice Chair; Co. Secretary | VOICE |
| Tim Clabon | Irish Wildlife Trust |
| Karin Dubsky | Coastwatch |
| David Healy, Director | Friends of the Irish Environment |
| David Lee, Director | Cork Environmental Forum |
| Elaine McGoff, Director | An Taisce |