

Determination report

Licence numbers: WA/065/0016/0021 & WA/065/0016/0022

Application reference numbers: PAN-030740 & PAN-030741

Afon Gennog at Blaen-y-Nant

Report of an application for a new full abstraction licence and new impoundment licence

Purpose of this document

This determination report:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies any further conditions in the licence other than those applied as standard.

Unless the determination report specifies otherwise we have accepted the applicant's proposals.

NRW has decided to issue the licence.

We consider that in reaching this decision, we have taken into account all relevant considerations and legal requirements and that the licence will ensure that the appropriate level of environmental protection is provided.

A glossary of acronyms used can be found at the end of this document in [Annex 2](#).

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1. Summary of the proposal

The applicant, WM Jones & Co, have applied for a new abstraction licence and a new impoundment licence for an existing 100kW Hydroelectric Power (HEP) scheme at SH 62109 56648 on the Afon Gennog at Blaen-y-nant, Llanberis, Gwynedd.

This scheme was previously licenced in 2013 under licence numbers WA/065/0016/009 & WA/065/0016/016 and is built and operational however, the previous licences lapsed due to a failed vesting. As a result, the Licence Holder has applied for new licences to authorise the existing abstraction and impoundment. This application is to re-licence the scheme as per the previous licences, with no proposed changes to the scheme design or abstraction regime.

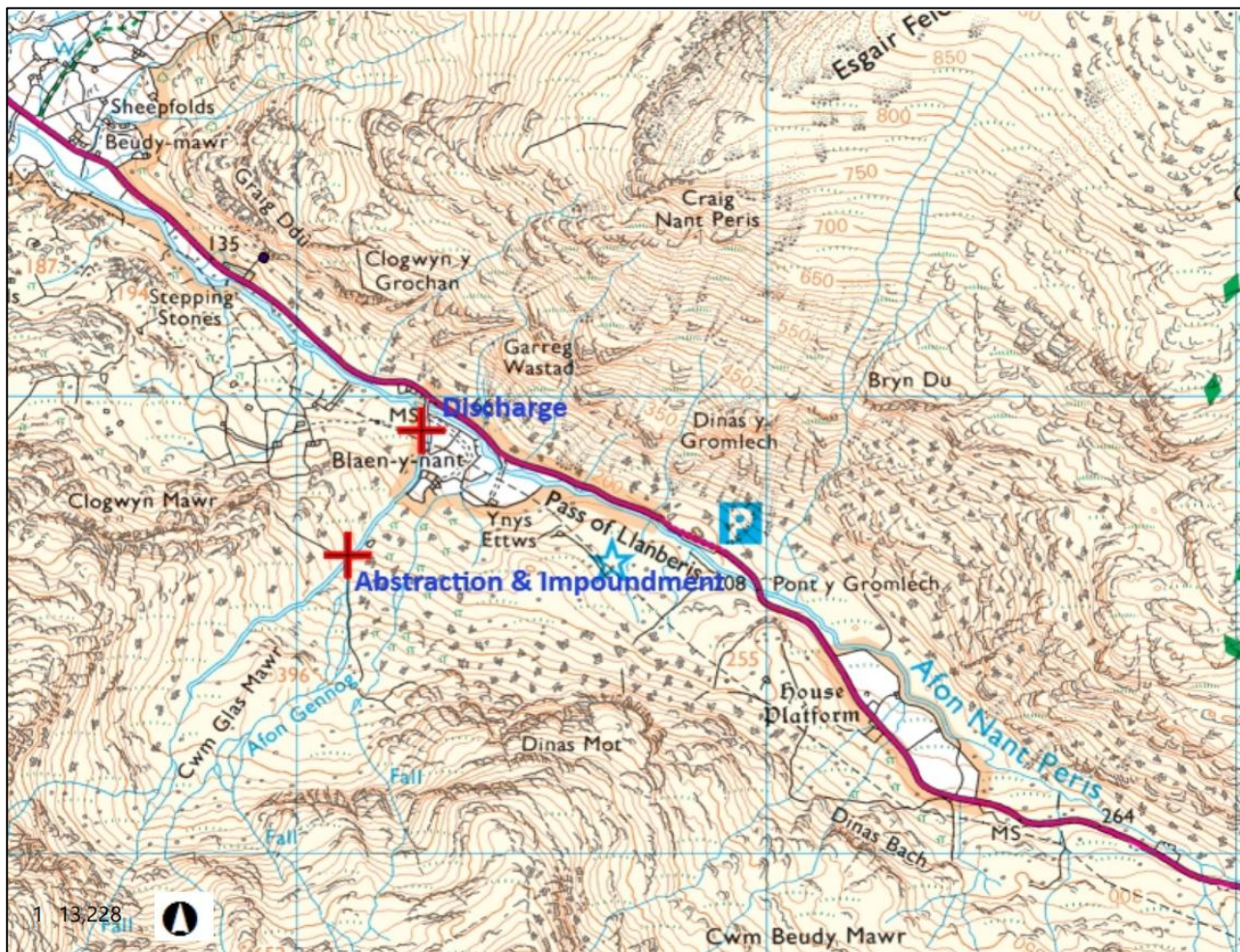
The following maximum abstraction rates are proposed: 190 litres per second (l/s), 684 cubic metres per hour (m³/hour), 16,416 cubic metres per day (m³/day) and 5,991,840 cubic metres per year (m³/year).

The intake design consists of an existing concrete weir with a Coanda intake screen with 2 millimetre (mm) aperture size. The scheme also includes a gravity feed penstock pipe, Turgo turbine, powerhouse and discharge outlet pipe fitted with a 10mm vertical bar screen.

The intake structure is designed to physically secure a residual flow of Q95 (14 litres per second), secured by a v-notch, and an abstraction of 50% of the available flow (above the residual flow all year up to a maximum of 174 litres per second).

All abstracted water will be discharged to SH 62267 56921.

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2. Application details

Administrative details	
Applicant name and address	Sylvia Jones 18 Windsor Drive Old Colwyn Conwy LL29 8BB Harri Mostyn Jones Bryniog Isaf Melin-y-Coed Llanrwst LL26 0TR trading as WM Jones & Co

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New licence numbers	WA/065/0016/0021 & WA/065/0016/0022
Hydrometric sub-catchment	Seiont – 065/0016

Any differences between what was applied for within the initial application and what was subsequently agreed as the application details have been communicated to the applicant.

3. Validation of the application and further information received during determination

The application was validated on 19/11/2025. This means we considered it was submitted on the correct form, the correct application fee had been received and that the application contained sufficient information for us to begin our determination.

Entitlement to apply

The applicant demonstrated that they are entitled to apply for the abstraction licence, as they have, or will have when the licence takes effect, a right of access to the abstraction point.

4. Advertising

In exercise of its discretion under the Water Resources (Abstraction and Impounding) Regulations 2006 (Regulation 7(4)), Natural Resources Wales dispensed with the advertising requirements in relation to this proposal. This decision is documented on a dispensation notice, which can be found on the public register.

Notice of this proposal has not been published; consequently no external representations from the general public can be made or considered. No statutory bodies have been notified because the proposal is not subject to advertising.

5. Justification of requirements and water efficiency

The turbine design flow of 190 litres per second (l/s) is equal to 1.09 x the agents Mean Flow (Q_{mean}) estimate of 174 l/s and is therefore within the limits set out in NRW's Abstraction Rates for Hydropower guidance which recommends that maximum rates of abstraction should not exceed 1.3 x Q_{mean} for a Zone 2 scheme.

The proposed residual flow of 14 l/s equals the agents estimate of Q₉₅ which is in accordance with NRW's Hydropower guidance.

NRW agrees with the agents assessment of flows.

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The proposed annual quantity is equivalent to 365 times the maximum daily quantity proposed which is in accordance with NRW's Hydropower guidance and therefore considered acceptable.

The net head for this scheme has been determined by the agent as 75.7 metres. The agent has based the electrical output on a maximum flow rate of 190 litres/second, and states that the scheme will have a maximum output of 100 kilowatts (kW). The following equation gives an estimate of the power (P) that can be generated (in kilowatts) based on the abstraction rate (Q), acceleration due to gravity (g) and head difference:

$$P = Q \times g \times h$$

Where:

Q = 0.190 cubic metres per second
g = 9.81 metres per second squared
h = 75.7 metres
P = 0.190 x 9.81 x 75.7 = 141 kW

System efficiency is the product of the individual efficiencies of the scheme, and for this proposal based on the power output calculation above, the design system efficiency has been calculated as 71% (100/141 * 100) which is reasonable.

NRW have assessed the applicant's justification of requirements and have deemed them reasonable as they align with NRW's Hydropower Guidance

Water efficiency

Natural Resources Wales have reviewed the measures provided by the applicant and consider that they are satisfactory to ensure that water is used efficiently.

The agent has confirmed that a high efficiency Turgo turbine and induction generator are in use at this site. A water efficiency addendum will be included in the abstraction licence document.

6. Consultation

Natural Resources Wales carried out consultation on the application in accordance with its legal obligations, our statutory Public Participation Statement (PPS) and Principles of Working Together agreements.

Consultation with other bodies	
Eryri National Park Authority	11/02/2026

Heneb (the Trust for Welsh Archaeology)	28/01/2026
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A summary of consultation comments and our response can be found in 7.11. We have taken all relevant representations into consideration in reaching our decision.

7. Technical assessment of the proposal

This proposal has been screened for potential impacts to the water environment, which includes designated sites, protected species, protected rights and lawful users.

7.1 Resource assessment and Abstraction Licensing Strategy (ALS)

The abstraction and impoundment are within NRW's Llŷn and Eryri Abstraction Licensing Strategy (ALS) area. According to the ALS, there is water available for licensing at this location (Seiont catchment).

The Llŷn and Eryri ALS states that, if an abstraction returns 100% of the water abstracted back to the same catchment it is known as "non-consumptive". Because all the water is returned, the environmental impact is localised and there is no overall change in water availability.

7.2 Hydrology and/or hydrogeology

The abstraction and impoundment are located on the Afon Gennog, in the Seiont catchment.

The proposed abstraction and impoundment are situated approximately 1.5 kilometres (km) downstream from the source of the Afon Gennog. The Afon Gennog is a tributary of the Afon Nant Peris with all abstracted water discharged back to the Afon Gennog approximately 85 metres before its confluence with the Afon Nant Peris. After flowing for a further 3 km the Afon Nant Peris enters Llyn Peris. Directly downstream of Llyn Peris the Afon y Bala flows for approximately 300m before entering Llyn Padarn. Directly downstream of Llyn Padarn the Afon Rhythallt flows for approximately 2.5 km before becoming the Afon Seiont and flowing for a further 11.5 km before entering the Menai Strait. The Menai Strait flows in both a south westerly and north easterly direction with the direction of flow influenced by the tide. 6km south west of the Afon Seiont the Menai Strait discharges into Caernarfon Bay, and 27km to the north east it discharges to Conwy Bay.

7.3 Impact on groundwater

Not applicable as this application is for a surface water abstraction and impoundment with no identified impacts to groundwater.

7.4 Impact on surface water flows

Natural Resources Wales have reviewed the proposal in accordance with NRW's Hydropower Guidance and have concluded that the proposal is in line with the guidance and is sustainable. The application has been assessed by the Hydropower Panel whereby it has been agreed that the proposal should be categorised as a Zone 2 abstraction regime which, in accordance with NRW's hydropower guidance, permits 50% abstraction of flows above a residual flow equal to Q95 up to a maximum abstraction rate of $1.3 \times Q_{\text{mean}}$.

Construction operation and maintenance - The hydropower scheme will be constructed, operated and maintained and be kept free from leakage and obstruction at all times in accordance with the drawings submitted to ensure that the abstraction regime is physically secured in a fail safe manner. Conditions will be included on both licences accordingly, together with conditions to clearly define the term 'hydropower scheme' (impoundment structure defined as 'intake works' on the impoundment licence) to ensure the licences are clear and enforceable. A condition will be included on the abstraction and impoundment licences stating that the Licence Holder shall ensure that during construction works and any subsequent maintenance, all flow shall be allowed to pass downstream unchanged in quantity and quality at all times to protect down stream flows.

Purpose restriction - The Licence Holder will be required to ensure that as far as is reasonably practicable, no water flows through the turbine if they are unable to generate electricity. This is to ensure that abstraction only takes place for the authorised purpose and will prevent depletion of flow in the river when power generation is not taking place.

Return of water - In order to ensure that the proposal can be classed as non-consumptive, a condition will be included on the abstraction licence requiring all abstracted water to be returned to the Afon Gennog at SH 62267 56921, as proposed.

Compliance - A condition will be included on the abstraction licence whereby the Licence Holder must contact NRW within 7 days (calendar) after abstraction for generation first starts. This is for NRW's compliance process to begin.

7.5 Impact on ecology

There are no anticipated impacts on ecology as a result of this proposal as licensed. Impacts to ecological features within designated sites can be found in section 7.8

7.5.1 Impacts on fisheries

Potential impacts on migratory salmonids as designated features of the Eryri SSSI have been assessed as part of the SSSI assessment, see section 7.8.2 below for further detail.

The following conditions will be imposed on the licences to prevent harm to local populations of fish present within the watercourse including at the point of abstraction/impoundment and point of discharge.

Condition 9.6 (abstraction) will be included on the abstraction licence whereby no abstraction shall take place unless a Coanda intake screen with spacing no greater than 2 millimetres has been installed to prevent the entrapment, entrainment or impingement of fish at the point of abstraction. The Licence Holder is required to maintain the fish screen in accordance with the manufacturer's specifications and keep records of such maintenance available for inspection.

Condition 9.7 (abstraction) will be included on the abstraction licence whereby no abstraction shall take place unless a vertical bar screen with spacing no greater than 10 millimetres has been installed to prevent the entrapment, entrainment or impingement of fish at the point of discharge. The Licence Holder is required to maintain the fish screen in accordance with the manufacturer's specifications and keep records of such maintenance available for inspection

Condition 4.6 (impoundment) will be included on the impoundment licence whereby the intake works authorised shall not be carried out in the watercourse between 17 October and 15 May in any year. This is to avoid damage to fish during vulnerable life stages such as spawning, migration, emergence and early maturation

Condition 4.7 (impoundment) will be included on the impoundment licence whereby the Licence Holder shall construct a plunge pool, with a minimum depth of 300 millimetres, across the width of the watercourse immediately downstream of the intake works to ensure the safe downstream passage of fish.

7.5.2 Impacts on other water dependent species and habitats

Potential impacts on flow dependent lichens as designated features of the Eryri / Snowdonia SAC have been assessed as part of the Habitat Regulations Assessment (HRA), see section 7.8.1 below for further detail.

In order to provide sufficient environmental protection and to support local ecology, abstractions for hydropower that create a depleted reach are required to protect three key characteristics of natural flow regimes - low flows, flow variability and high flows.

The following condition will be imposed on the abstraction licence to provide enough flow and flow variability to support and prevent harm to water dependent species and habitats present within the depleted reach:

Condition 9.5 (abstraction) will be included on the licence to prevent impacts to water dependent species and habitats. The intake structure is designed to physically secure abstraction of 50% of the available flow, above the residual flow of Q95 all year, up to a maximum of 190 litres per second.

Therefore, there are no anticipated impacts to water dependent species and habitats as a result of this proposal as licensed.

7.6 Impact on water quality

Condition 9.8 (abstraction) and condition 4.2 (impoundment) are included on the licences to ensure that during construction works and any subsequent maintenance works to the hydropower scheme, the flow in the Afon Gennog is allowed to pass downstream unchanged in quantity and quality at all times.

Therefore, there are no anticipated impacts to water quality as a result of this proposal as licensed.

7.7 Protected rights and lawful users

Lawful uses of water have been considered and appropriate measures to safeguard them have been taken.

No protected rights have been identified as being at risk of derogation as a result of this proposal.

7.8 Conservation impacts – Designated sites

7.8.1 The National Site Network and Ramsars:

The following National Site Network sites and Ramsars have been identified as at risk as a result of this proposal:

- Eryri / Snowdonia SAC
- Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC

A Habitat Regulations Assessment (HRA) was completed to assess the potential to affect any of the sites identified. In light of the conclusions of an appropriate assessment it has been established that the plan or project will not adversely affect the integrity of any sites designated under the National Site Network, taking into account any conditions or restrictions as applicable, either alone or in-combination with other plans or projects. (As documented in section 4 of OGN 200 Form 1). The full assessment is available to view on the public register.

Condition 9.5 (abstraction) will be included on the licence to prevent impacts to water dependent species and habitats. The intake structure is designed to physically secure abstraction of 50% of the available flow, above the residual flow of Q95 all year, up to a maximum of 190 litres per second. This is sufficient in providing enough flow and flow variability to support flow sensitive lichens located within the depleted reach.

7.8.2 Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Areas of Outstanding Natural Beauty (AONB)

The following sites were identified within the potential impact pathway of the proposal:

- Llyn Padarn SSSI
- Eryri SSSI
- Llyn Peris SSSI
- Afon Seiont SSSI

Natural Resources Wales concluded the proposed permission is likely to damage the Eryri SSSI but have assessed that this damage could be mitigated by including conditions. Advice was sought from NRW's protected sites advisors. Taking into account the advice received, NRW's final conclusion is that the proposed permission should be allowed to proceed with certain conditions.

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Condition 9.5 (abstraction) will be included on the licence to prevent impacts to water dependent species and habitats. The intake structure is designed to physically secure abstraction of 50% of the available flow, above the residual flow of Q95 all year, up to a maximum of 190 litres per second. This is sufficient in providing enough flow and flow variability to support migratory salmonids located within the depleted reach.

A SSSI assessment is available on the public register to view.

7.8.3 Other Designations

Heritage Coast

None identified

Local Nature Reserves (LNRs)

None identified

Ancient Woodland

Restored Ancient Woodland Site and Ancient Semi Natural Woodland

Natural Resources Wales is of the opinion that the proposal is not likely to have any impact on the ancient woodland sites, as no impact pathways were identified.

7.9 Water Framework Directive Regulations 2017

The abstraction and impoundment hydrologically linked with the following waterbodies:

- GB110065054010 - Nant Peris
- GB110065054040 - Seiont
- GB110065054020 - Caledffrwd
- GB31033730 - Llyn Padarn
- GB31033828 - Llyn Peris
- GB521006501100 - Seiont
- GB681010120000 - Menai Strait
- GB621010380000 - Caernarfon Bay North

According to NRW policy, the proposal has screened out of requiring any further assessment under the WFD Regulations 2017 because the activities related to this proposal align with the Annex D 'green light activities', and is therefore considered 'low risk' activity.

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The abstraction is in accordance with flow standards as set out in NRW's Hydropower guidance. The impoundment structure is built and operational and as a result, no changes to the structure are being applied for as part of this application.

A record of the risk screening assessment is available on the public register to view.

7.10. Other considerations

Consideration	
Flooding	<p>No concerns have been raised regarding flood risk as a result of this proposal.</p> <p>Due to the nature of this proposal, NRW will advise the applicant to apply for any necessary consents relating to flood risk.</p>
Archaeology	<p>NRW sent a screening request to Heneb the Trust for Welsh Archaeology to seek advice on potential impacts to the historic environment.</p> <p>No concerns have been raised regarding impacts to the historic environment and archaeology as a result of this proposal.</p>
Recreation and amenity	<p>NRW consider that this proposal will have minimal impact to recreation and amenity.</p>
Subsidence and desiccation	<p>NRW do not have concerns regarding the risk of subsidence and desiccation as a result of this proposal.</p>

7.11 Representations and external consultation/notification responses

No representations were received as this application was not subject to advertising requirements.

For specific statutory bodies and voluntary organisations consulted, no responses were received.

7.12 Other consents

The applicant may be required to apply for other consents in addition to this application. It is the applicant's responsibility to ensure that all necessary consents are obtained before commencing this proposal.

8. Cost benefits and environmental mitigation or gain

In accordance with the Environment Act 1995, Section 39, NRW have had regard to costs and benefits in exercising its powers in the assessment below.

Assessment of probable benefits and costs of proposed option to the :	
Water Resources/ The Environment	<p>There is low risk of environmental damage occurring as a result of this proposal.</p> <p>The inclusion of flow/level conditions will ensure there is enough water for the environment.</p> <p>The proposal accords with local water resources policy and is sustainable.</p>
The applicant	<p>The applicant will benefit from the availability of water for their operation.</p> <p>The applicant will incur the costs of installing and maintaining the method of abstraction and of measuring the volumes of water they abstract.</p> <p>The applicant will have to pay the application fee.</p>
Natural Resources Wales	<p>Natural Resources Wales will incur the cost of determining the application and enforcing the licence. These costs will be partly recovered through the application charge and annual charges, where applicable.</p> <p>In determining the licence in accordance with local and national policy, Natural Resources Wales is fulfilling its duties as a regulator.</p>

The economic and social well being of the rural community.	No adverse effects upon the social and economic well being of local communities in the rural area are perceived as a result of this proposal.
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9. Biodiversity and Sustainable development

The principles of sustainable development and biodiversity are embodied in the conditions attached to the licence.

10. Time limit

Abstraction licence - A time limit has been included in accordance with the CAMS common end date for the catchment and Natural Resources Wales' approved policy

Impoundment licence - A time limit has not been included because the licence applied for is to impound water.

11. Special agreements

There are no special agreements relevant to this proposal.

12. Measurement of water abstracted

The applicant will be advised of the measuring requirements which will comply with the Abstraction Metering Good Practice Manual (R & D Technical Report W84).

Flow Measurement Analysis (FMA) will be applied to the abstraction licence in accordance with NRW's Guidance for Hydropower. The Licence Holder will be required to determine the quantities of water abstracted by reference to the kilowatt-hours generated, as measured by a kilowatt-hours meter multiplied by a site specific conversion factor determined using the calculation checklist attached to the abstraction licence.

In accordance with current guidance, records of weekly electrical output and the corresponding quantity of water abstracted will need to be submitted to the NRW on an annual basis (within 28 days of 31 March in each year) or within 28 days of the NRW

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requesting the records in writing. The Licence Holder will also be required to keep all records for at least 6 years and to make them available for inspection during all reasonable hours.

13. Considerations of SMNR – compliance with our General Purpose

We are satisfied that this decision is compatible with our general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources.

14. Conclusion and decision

Full and due consideration has been given to any representations made, and due regard has been taken of protected rights and other lawful interests.

The principles of sustainable development are embodied in the conditions attached to the licence.

The conditions incorporated on the licence are considered to be necessary and reasonable in light of the available and presented evidence. The conditions are also considered to be consistent with appropriate standards for enforcement by Natural Resources Wales.

NRW has therefore approved the application (as modified) and issue of Licence numbers WA/065/0016/0021 & WA/065/0016/0022 with the conditions applied.

Annex 1 – Administration

Purpose code and loss factor

Primary Code	Secondary Code	Use	Loss factor
P: Production of Energy	ELC: Electricity	240:Hydro-electric Power Generation	Very Low
X: Impounding	UNK: Unknown	490:Unknown (Impounding)	N/a

Finance

The licence is exempt from the payment of annual charges being one of the categories under Paragraph 6.2 of [Natural Resources Wales's water abstraction charges scheme](#).

Annex 2 - Glossary of acronyms used in this document

ALS	Abstraction Licensing Strategy
CAMS	Catchment Abstraction Management Strategy
CRoW	Countryside Rights of Way
EFI	Environmental Flow Indicator
FRAP	Flood Risk Activity Permit
GES	Good Ecological Status
GW	Groundwater
HAF	Hydro abstraction factor
HEP	Hydro-electric power
HES	High Ecological Status
HIA	Hydrological Impact Assessment
HoF	Hands-off flow
HoL	Hands-off level
HRA	Habitat Regulations Assessment
LNR	Local Nature Reserve
LSE	Likely Significant Effect
NNR	National Nature Reserve
NRW	Natural Resources Wales
PALS	Permitting and Licensing System
PPS	Public Participation Statement
PWS	Public Water Supply

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Q ₃₀	Flow exceeded 50% of the time period considered
Q ₅₀	Flow exceeded 50% of the time period considered
Q ₇₀	Flow exceeded 70% of the time period considered
Q ₉₅	Flow exceeded 95% of the time period considered
RBMP	River Basin Management Plans
ROA	Rights of Access (e
RSA	Restoring Sustainable Abstraction
SAC	Special Area of Conservation
SINCs	Site of Importance for Nature Conservation (Local Wildlife Sites)
SMNR	Sustainable Management of Natural Resources
SPA	Special Protection Area
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
WAT	Welsh Archaeological Trust
WFD	Water Framework Directive (2008/98/EC)
WFS	Water Feature Survey
WIA	Water Industry Act
WR	Water Resources