Form WRD: Application for a new abstraction licence or a technical variation to an abstraction licence

Application type

Reference number (The number you generated in form WRA). Example: WRNATURALRESOURCESWALES1101
WWRNATURALRESOURCESWALES0701

Are there any applications currently being assessed by us that are linked to this application?
No

Is the proposed abstraction going to be aggregated with another existing abstraction?
No

Are any applications, at the same site; being assessed by the Environment Agency?
No

Tell us when you want your abstraction licence to end: [DD/MM/YY]
31/03/2036

If you require a shorter or longer duration licence, please provide details and your justification
The abstraction relates to an existing fish bypass channel which we would expect NRW to operate indefinitely, to ensure fish passage over Glascoed Weir remains sustainable. 10 years has been selected and is considered a reasonable duration to reflect this. Note this application has arisen following an administrative issue which resulted in failure of NRW to renew a previous transfer licence, which legally expired in March 2022. The previous licence issued to extract water: MD/054/0001/0066 noted that A transfer licence rather than an abstraction licence is required as there is no intervening use of water, and there is no justification for requiring protected rights associated with an abstraction licence. "The applicant applied for an abstraction licence. On reviewing the licence application it became apparent that a transfer licence was more appropriate because there is no intervening use of water. A copy of this previous Licence and its 'Determination Report' has been attached for background and context. For the same rationale this application relates to a Transfer Licence. Note the existing impounding arrangements on this watercourse are entirely unchanged and it was agreed in a meeting with the Water Resources Permitting Team on 06/08/2025 (Liz Cole) that the no changes to this are needed. For reference the associated impoundment licence is MD/054/0001/0076

Abstraction details

Abstraction location name/reference
Glascoed Bypass Channel Intake Structure Afon Cynllaith near Llansilin

Abstraction point type
Single point

National Grid Reference
SJ 21714 28311

Downstream National Grid Reference (If abstracting from a reach), or corners of the area.
SJ 21677 28211 - - -

Do you have any further points of abstraction?
No

Means of abstraction

Provide full details of the equipment you propose to use to abstract water, such as maximum pump capacity and any relevant dimensions, e.g. pipe diameter. For groundwater abstractions, include details about the borehole (depth and diameter) and details of screening and lining.
Flows are abstracted passively by means of a inlet structure (sluice orifice) on the right hand bank of the Afon Cfynnalith. Refer to attached supporting documentation and drawings for full details. See also photos of this structure before and after the 2024 repairs. The abstraction capacity remains unchanged or marginally reduced with the new orifice.

If necessary, continue on a separate sheet and upload below.
• File: 290049-ARP-ZZ-00-DR-ZX-0001-NRW A1 (Land-Vert).pdf - Download • File: 290049-ARP-ZZ-00-DR-ZX-0002-NRW A1 (Land-Vert).pdf - Download • File: 290049-ARP-ZZ-00-DR-ZX-0003-NRW A1 (Land-Vert).pdf - Download • File: Photo Comparison of intake structure before and after the 2024 repairs .jpg - Download

Please upload your drawings and calculations here. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)
• File: 290049-ARP-FP-XX-FN-ZX-0001_Outline Design Report.pdf - Download • File: 290049-ARP-FP-XX-RP-ZX-0002_Hydraulic Modelling.pdf - Download

Abstraction quantities

Abstraction location name/reference
Glascoed Bypass Channel Llansilin

What purpose will the water be used for?
To provide flows to the adjacent NRW fish bypass channel allowing fish to pass upstream of Glascoed Weir.

Period of abstraction Will it be all year?
Yes

Maximum quantities (cubic metres)	
Annual	6906384
Daily	18921.6
Hourly	788.4

Peak abstraction rate (in litres per second)
219

Number of hours of abstraction per day
24

Add quantities for another location?
No

Calculations and supporting information

Use this section to show us how you have calculated the amount of water you require. This should include details of your operational regime (for example, number of hours and days you intend to abstract, number of units produced or area to be irrigated). We use this information to determine if the volumes you propose to abstract are appropriate for the purpose. Depending which industry you are in, you may need to provide additional information below.

If your proposal involves the provision of a residual flow via a notch or orifice, provide information on how this is being calculated. This should include details of the equation being used.

Please refer to Arup's Outline Design Report for the updated inlet (sluice orifice). Notably table 2.

The figures provided above are hypothetical Maximum rates based on a maximum passible flow rate of 0.219m³/s under fully surcharged conditions (flood). This is a passive structure and in practice the transferred flow rates vary based on river flow/levels. Typical flows are significantly lower than the maximum values provided under all but flood conditions.

The change on orifice design arising from these recent works, is also such that passible flows are no greater than and in fact slightly reduced from those possible under the previous arrangements.

The orifice has been sized to balance flow depths and velocities. The calculations take account of low flow data in the main river, and using the cross sections / topographical survey in the area calculate the depth of flow at the varying flow regimes (Q95, Q50, Q10). An iterative notch sizing process has been undertaken to determine an appropriate orifice for the inlet structure. The client stated that the current impoundment license only allows for 50% of the Q95 flow to be directed through the bypass channel. The optimum size was found resulting in flows and velocities as shown in Table 2. This shows the percentage of the main river flow that will be directed through the bypass channel, sometimes known as the attraction flow, which should ideally be above 10%. The calculations also show that velocities through the orifice will be low enough to allow fish passage up to at least the Q10 flows, as they do not exceed the Mean Burst Speed of most fish species

Additional document. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)

- File: 290049-ARP-FP-XX-FN-ZX-0001_Outline Design Report.pdf - Download
- File: 290049-ARP-FP-XX-RP-ZX-0002_Hydraulic Modelling.pdf - Download
- File: Glascoed Weir Bypass _Screening for compliance with WFD Regs 2017.docx - Download
- File: OGN 200 Form 1A simple HRA - Glascoed Abstraction Licence - 2025.docx - Download

Industry-specific requirements

State the length of depleted reach (in metres)

120

Provide the flow data (in cubic metres per second) & ratios specified below:

Q95	0.07
Q10	2.036
Qmean	NA
What is the ratio of Q95:Qmean?	-
What is the ratio of Q10:Qmean?	-

Means of measurement

State how you intend to measure the quantity of water you abstract. You do not need to do this for a temporary or transfer licence.

Other (please specify):
This is a passive and ungauged simple structure. Measurement not required for Transfer Licence

Water efficiency

Provide details of what measures you provide or intend to implement, to ensure efficient use of water. This could include water storage, re-use or recirculation, monitoring and checking for leaks, undertaking water audits or other industry specific good practice.

The nature of the fish pass channel is in itself a simple and efficient use of the transferred water which is returned quickly to the watercourse downstream of the weir. The intake structure itself is visually inspected and monitored for leaks on an ad hoc basis as part of routine NRW Fisheries Team inspections, but particularly after storms or flood events.

Fish and eel considerations (surface water abstractions only)

Does your proposal include measures to safeguard fish and eels? Only provide details of outfall screening if abstracted water is to be discharged back into a watercourse. For further guidance on appropriate screening Intake screening for fish (opens in new tab)

	Intake	Outfall
Type of fish screen	None	None
Screen aperture size (mm)	None	None

Confirm the fish species present at your site. If you're not proposing any measures to protect fish and eels, you must justify this. For example, we may have confirmed in our pre-application response that the intake is inaccessible to fish or you undertook a fish survey to confirm.

As a fish bypass channel the arrangements run contrary to this assumption i.e. the features and the intake structure have been specifically designed to cater for and attract fish to pass via the structure. Refer to details in the attached Design Report e.g. table 3. Flow Velocities through the orifice are designed and calculated to be low enough to allow fish passage up to at least the Q10 flows, as they do not exceed the Mean Burst Speed of most fish species.

Discharge details

If you intend to return any of the abstracted water to the environment, provide details below. Details of discharge location(s) should correspond with any maps submitted. Do not include discharges to a public sewage system.

	Discharge location name / reference	National Grid Reference of discharge point (12 digit)	Total volume to be discharged (cubic metres)	Environmental Permit for Water Discharge Activity number (if applicable)
	Right Bank downstream of Glascoed Weir	SJ 21678 28211	All transferred flow returned	NA
	-	-	-	-
	-	-	-	-
	-	-	-	-

Provide a description of the structure and equipment involved in discharge.

Discharge is via a naturalised bypass channel re-entering the the right bankside of the Afon Cynllaith some 120m downstream from the abstraction point. Refer to images and photos in the supporting information.

Other abstractors / water users

Provide details of nearby abstractors or users of water who could be affected by your proposal. This should include deregulated users (exempt activities or abstractions < 20 cubic metres per day), anglers and canoeists.
Your local authority's environmental health will hold details of exempt domestic abstractors.

NA

Planning application

Have you sought advice on your planning application?

No

Declaration

By signing below, you are declaring that, to the best of your knowledge; the information given in this form, on any map and in any supporting or additional information; is true.

Signed Ruairi Barry

Print name RUAIRI BARRY

position NRW Project Manager - Projects and Programme Delivery

If an agent is to sign on behalf of the Licence Holder, a letter of authorisation from the Licence Holder is required.

- File: Applicant Authorisation - Approval in Principle - Gavin Bown - Head of Mid Wales Ops.jpg - Download

Date

* 07/01/2026

Submit your application

Enter your email address to get a copy of your application

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