

From: Kirsty Russell (Guest) [REDACTED]
Sent: 06 February 2026 20:56
To: OCS Sustainable Abstraction Team
Cc: Gail Fursdon - Waterleat
Subject: DCISOldWallsS52

You don't often get email from [REDACTED] [Learn why this is important](#)

Reference of DCISOldWallsS52.

In review of the existing asset and proposed required changes to Old Walls Hydro-electric Power Scheme, I would like to raise the following due concern.

1. Water quality (South West)

South West Water (SWW) is committing £2.5 billion to environmental improvements between 2025 and 2030, the largest investment in its history. This includes the Water Fit programme, which aims to reduce storm overflow spills, improve river quality, and ensure all bathing waters meet strict standards by 2030, a decade ahead of government targets.

The existing implementation of the automatic fish protection and debris screen removes water contaminants (such as drinks cans, bottles, plastic bags, sweet wrappers, fishing line and hooks) which would otherwise enter the watercourse and continue from the Webburn to the River Dart to eventually be released into the ocean. This structure as opposed to alternative screening as suggested by the Environment Agency removes water material and contaminants directly out of the river and ensures that it does not re-enter. In its current state it is effective in preventing blockage, reducing operational downtime, and maintaining safe overflow management. Its design incorporates a passive, low-visibility debris screen that is sympathetic to the surrounding landscape and positioned to blend into existing structural forms.

- Overall water quality for recreational use is improved assisting in promoting the Webburn and Dart River for recreational purposes and continued tourism.
- Water is more suitable to re-enter the river for wildlife having less detrimental impact on fish and contaminants which would otherwise be digested.
- Water is aerated upon return to the river actively encouraging healthier grade water for the environment and ecology.
- No water is wasted due to the design of the debris screen returning water directly back into the water table for equilibrium. This reduces overall water abstraction further for the scheme.

Following the Environment Agency's proposals these benefits would be lost. Debris and contaminants would be bypassed directly back into the river to a negative impact to the environment, wildlife and tourism.

2. Protection of migrating Fish and fish population.

Current fish screening is at the Forebay Tank. This is where the open leat transitions to the underground supply pipework (Penstock), which carries water to the turbines.

The current layout and management of the scheme is highly efficient.

The screen is effective in its current situation as a single structure that completes all the necessary functions in the best location, positioned and angled to create low approach velocities, thereby minimising the risk of entrainment.

The screen is situated in calm water, far from the river intake with an average 0.395 m/s approach velocity. The Environment Agency "Testing the effectiveness of Fish screens for hydropower intakes, Evidence" (Project SC120079) published in 2016, recommends ≤ 0.6 m/s safe escape (Approach) velocity for Salmonids, and Eels: ≤ 0.5 m/s. the existing screen is well within the Environment Agency's maximum acceptable velocities

tolerances. The aforementioned publication also recommends a ≤ 10 mm aperture in northern regions (Yorkshire & NE, NW, SW (Devon & Cornwall), Wales) for Atlantic Salmon Smolts, which the current screen is within the tolerances, and is highly recommended. The study validated that 10 mm wedge-wire screens achieved high deflection efficiency:

10 mm screens: $\geq 92.4\%$ deflection (95% confidence).

The proposed structural changes would in this case make no impact to the assumed impediment of upstream or downstream movement of migratory fish species, and a further study utilising acoustic telemetry by the Environment Agency to confirm their concerns would be required confirming accurate 2D / 3D positioning. Unfortunately without the reflective data to confirm any underlying issues with the current screen and impact to migratory fish it is unfounded to make changes to the current system, which has been assessed (Restoring sustainable abstraction fish investigation 2018). Conclusions of the report were that there was no evidence to show that decline of salmon numbers had been impacted by the Old Walls Hydro-electric screen. To compliment the Fish investigation a further Ecology report (2018) using macro invertebrates upstream and down stream, surveyed over spring and summer during a prolonged period of dry weather also concluded that there were no ecological impact caused by the abstraction for Jordan's leat. The water quality remained high at all times during the survey and water volumes remained high even after a prolonged period of dry weather.

The Environment Agencies solution would however reduce efficiency by relocating the screen away from a direct power source to the river intake, creating more risk of the screen becoming overwhelmed by aggregate loads which are carried in the turbulent water of every steep Dartmoor river without any foreseeable benefit.

3. Local ecology and habitat

Given the site's location within both a National Park and an Area of Outstanding Natural Beauty, the current design ethos prioritises minimal visual intrusion and the safeguarding of landscape character. All structural elements have been intentionally kept to the smallest possible footprint and utilise materials and finishes that reflect local vernacular tones and textures. The Old Wall Hydro-electric scheme is situated within an area of natural beauty and national park. The woodland surrounding the scheme has veteran trees and great efforts have been made during the original construction of the scheme to minimise the impact the woodland, having only felled 6 trees, and replanting a further 800 new hardwood trees were planted approximately 30 years ago to compensate and extend the woodland. This has created substantial habitat for wildlife and a keen area for tourism as the Two Moors way, a public footpath crossing Dartmoor and Exmoor, runs on the west side of the West Webburn river at this location. The woodland is considered highly valuable to the local community and I am sure the wildlife.

The existing scheme has led to improvement of riparian planting using locally appropriate native species, sensitive bank stabilisation to reduce erosion and support habitat continuity maintaining natural flow variability where possible to protect aquatic ecology which has undergone several thorough tests and surveys to ensure continuity.

Old Walls achieves a measurable carbon-reduction benefit while maintaining the landscape integrity that underpins the designation of the area. The scheme demonstrates the compatibility of small-scale renewable energy with protected landscapes when designed with sensitivity, ecological protection, and regulatory compliance at its core.

Where alterations to existing structures would mean considerable damage to the woodlands and habitation. The major structural changes to simple, existing, moss-covered structures will undoubtedly be frowned on by members of the public walking this popular route, altering the existing form, scale and orientation, increasing perceptual change in the river corridor. The reconfigured built elements would sit outside the existing envelope of development, catapulting the hydro scheme from a modest, unobtrusive feature within the wider natural setting, to an obtrusion to the natural surrounding again with no beneficial outcome.

Old Walls Hydro-electric scheme:

- Meets fish-screening, debris-screening, and flow management requirements
- Protects river morphology and sediment transport
- Avoids negative impacts on habitat connectivity
- Incorporates biodiversity improvements (e.g., riparian planting, bank restoration)

Upon review the Environment Agency proposal lacks due diligence to avoid significant structural change at great cost, generation of waste, sustainability and efforts to reduce carbon footprint, without benefit to the environment and wildlife, the local community, the tax payer and the community that benefits from the approximate generation of 450MWh; enough to power over 90 homes, and save 170 tonnes of CO2 each year.

The real implications of the impact of restructuring the current scheme has not been fully appraised or realised.

A similar layout was enforced at the National Trust site at Castle Drogo on the River Teign. The original design, when the site was first developed, employed the screening at the Forebay Tank just as it is currently at Old Walls. This was simply because it is the simplest and most efficient methodology. It is a tried and tested scheme that is a prime example when considering 'Best Practice' in any subject. The operation of the revised Castle Drogo site has proved to be disastrous. The screen regularly either partially or totally blocks as expected. This results in flow velocities, through the remaining clear parts of the screen, increasing far above the target window. Fish are then, of course, detrimentally affected which is totally contradictory to the Environment Agency's expected outcome and motivations for change.

4. Proven Long-Term Renewable Energy Generation

The Old Walls Hydro electric scheme provides consistent, predictable, year-round power to the local community with stable base load energy, decades of operational lifespan, low maintenance and low carbon intensity with excellent energy return on investment without the requirement to undergo a redevelopment.

To summarise:

It appears that consideration has been undertaken regarding the impact of enforcing the installation of fine screens at the river intake on the Old Walls site.

The design and installation of the necessary structures will require the removal and disposal of the existing structure creating waste of embedded carbon in existing infrastructure.

The design of a replacement has not been provided by the authority, but it is extremely difficult to incorporate settlement tanks, a flushing system, flood protection, screening and by-wash so close to the abstraction point where the authority want it.

The physical size of such a structure would be huge and the destruction of a length of the riverbank downstream of the weir would be inevitable.

The Environment Agency proposal would require debris from the screen to be by-washed back into the river. Consequently, any previously mentioned plastics etc, would be deliberately returned to the river and inevitably add to sea pollution at Dartmouth and the English Channel.

The access to this site is restrictive. The nearest hard road for lorries to enter the farm is at least 700m and then across 4 different fields. The last stretch of 150m is both narrow and steep. Bearing in mind that tens of cubic meters of concrete alone would be required, this would be both difficult and expensive to manage, not to mention the additional carbon footprint.

No electrical power to run a screener at this location exists at present. A new armoured cable would have to be installed through at least 500m of Ancient Scheduled woodland.

Redevelopment of the scheme under the Environment Agency's proposals would impact:

- Construction work and vehicle movements through restrictive country lanes to the detriment of the local community, landscape, environment and wildlife.
- Loss of ongoing renewable generation
- Disruption to riverbanks and sediment balances

I would be happy to be contacted to review the above mentioned concerns further, and can be contacted at

Thank you for your attention.

Kind Regards

Kirsty Russell

This correspondence and any files transmitted with it are confidential and intended solely for the use of the intended recipient(s) to whom it is addressed.

[REDACTED]

Any views expressed in this message are those of the individual sender and are not endorsed by VolkerStevin unless otherwise notified by our duly authorised representative independent of this message.

[REDACTED]