



Llyn Anafon



Restoring Llyn Anafon – Briefing

Overview

Over the next five years, Welsh Water will be carrying out work at Llyn Anafon to restore it to its natural state.

Llyn Anafon is located in Snowdonia National Park, around three miles above Abergwyngregyn, Gwynedd on land owned by the National Trust and is part of the Eryri Site of Specific Scientific Interest (SSSI) and Snowdonia Special Area of Conservation (SAC). A dam was created in the lake in 1931 impounding the water to provide drinking water to residents in the surrounding area.

Over the years we have changed the way water is supplied to customers in the area which means that Llyn Anafon reservoir is no longer used to supply drinking water and therefore is no longer required as a reservoir. This means that Llyn Anafon can be return to its natural state and to how it was before the dam was built.

Location



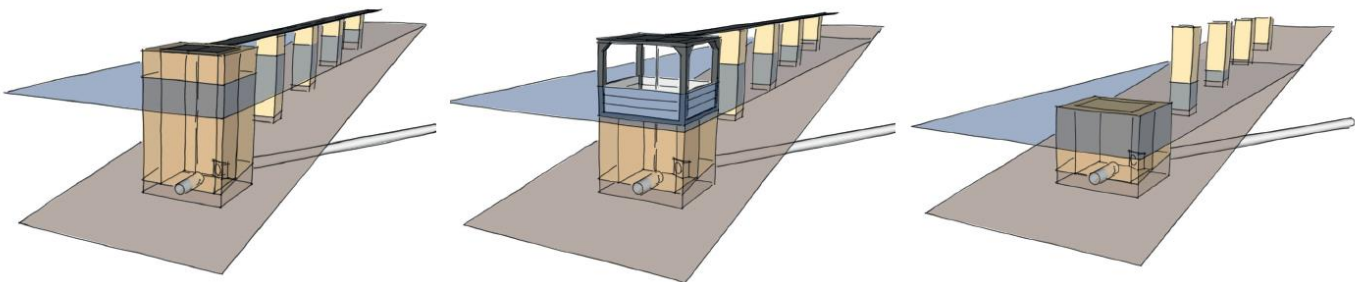
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How will we do the work?

To restore the lake to its natural state, we need to return the level of the water to how it was before the dam was built, which is 1.4m lower than what it is now. But to make sure we preserve wildlife and the aquatic plants at Llyn Anafon we will be reducing the level of the water in the lake very slowly over at least 5 years and carrying out the work in three phases.

- Phase 1 will be done in the spring of 2020 and will begin with enabling work including improvements to the access lane, upgrading pipework between the reservoir and river to protect the lake's habitat and the dam during the work, and modifying the existing tower replacing masonry walls with stop logs which will be used as wooden boards which over time can be removed one by one to allow the water to flow over the top layer into the tower and out of the pipework.
- Phase 2 will be carried out over a minimum of 5 years (from summer 2020 – 2025) or longer if required. During this time the water will be lowered around 30cm per year by taking a layer of the stop logs from the tower, this means that the level of the walls of the tower will be lowered slowly by removing one of the wooden boards at a time.

When we've finished the work, the logs and walkway will be removed from the tower but we will leave the walkway pillars and spillway as part of the lake's heritage



- Phase 3 will be carried out after the water in the lake has reached the required level, where the dam will be lowered to the original stream bed height and a new weir will be created to allow water from the lake to flow to the stream.

Environment and Ecology

Llyn Anafon is considered as one of the most important lakes in the Eryri Special Area of Conservation and is internationally significant because of its plant community. It is home for two extremely rare water plant species (*Potamogeton x gessnacensis* and *P. x griffithii*) both of which are restricted to only one or two other lake sites in the UK. These plants need very high-water quality to grow and live at a certain depth.

The project approach has been developed to minimise impact on the sensitive ecological features of the site. To do this, a number of mitigation measures and ecological monitoring have been incorporated into the project and will continue even after work on site has been completed.





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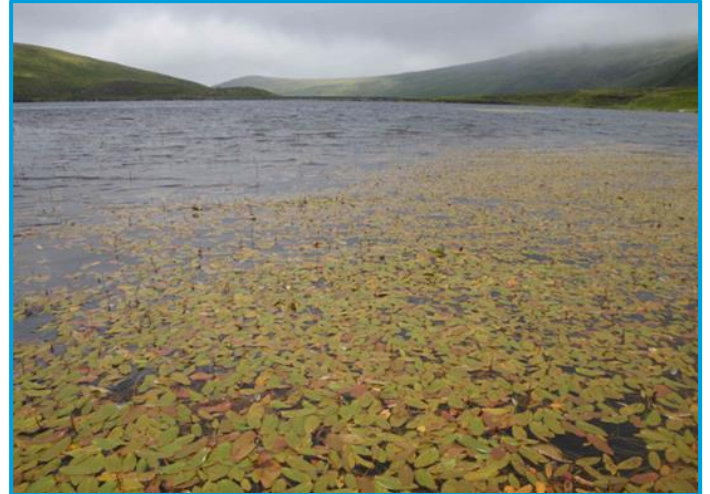


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In fact, the reason that the project has been designed to expand over several years is because the intention to enable the ecological features at the lake to take time to adapt as the lake is being returned to its former natural level. A close monitoring regime will be undertaken to enable appropriate ecological mitigation measures to be taken promptly.

We have been working closely with Natural Resources Wales to ensure the least impact possible to the local environment and the wildlife in the area.

It is our aspiration that, once complete, the lake will continue to support habitats and species of ecological importance and remain a key ecological and cultural features of the Snowdonia National Park.



The team



This scheme will see a number of teams within Welsh Water working collaboratively including our Capital delivery team which look after our investment in our assets who will be overseeing the work, Dam Safety team have been providing guidance on lowering the dam, the Environment Team who are central to ensuring any negative effect on the environment and ecology of the area is minimised and Communications team who will ensure that all stakeholders and local residents are aware of the planned work.

We have appointed Arup to carry out the design work for removing the dam and river reinstatement, to enable the re-naturalisation of the lake; they have worked closely with Natural Resources Wales (NRW) throughout the design. Arup is one of the world's most respected design, engineering and project management consultancies with vast experience of projects of this nature. Arup has been liaising closely, on behalf of Welsh Water, with a number of different partners including Snowdonia National Park, National Trust, and Natural Resources Wales, to achieve the most suitable approach to undertake the work at the site.

Health and Safety is always our top priority during construction. We have appointed Anglesey based contractors, William Hughes Civil Engineering Ltd to carry out the work. They are a highly experienced contractor with all relevant Health and Safety qualifications.





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As the work will be carried out over five years, our contractors won't be on site every month. Our contractors will be working on site during the first phase of the work carrying out enabling work and the first part of the work. Following this, there will be a slow draw down process which means there will be no activity on site other than one visit a year to remove one layer of wooden boards in the tower to allow the water to drain down slowly.

Work will then be carried out on site during the final phase when work will be done to lower part of the dam to its original stream bed height. However, throughout the duration of the planned five years of the work, our dam team will continue with their regular visits to carry out routine checks of the reservoir and our specialist contractor will visit to monitor progress on the lowering of the water in the reservoir.



Keeping you informed

So that we can let local residents, community groups and stakeholders know about the work we plan to do to return Llyn Anafon to its natural state, we will be holding an information event where local residents, groups and stakeholders can see our plans for the work, hear more information from the project team and ask any questions they may have.

The event will also give us the opportunity to see if there are any opportunities for Welsh Water to work with the community while we carry out the work in the area.

The information event will be held on Tuesday, November 5th at Yr Hen Felin, Abergwyngregyn, LL33 0LP from 2pm – 7pm. You are welcome to drop by to hear more information about the event.

During the work we will be keeping stakeholders updated about the work and customers can see updates on progress on our 'In my area' page on our website www.dwrcymru.com – customer can also sign up for updates on the work, and any other work Welsh Water are carrying out in their area through our 'In my area' page.



More information

We'll keep you updated on the work, but should you have any questions, or you would like us to meet with you to go through the scheme, please do not hesitate in getting in touch with me, Gwenan Davies on 01745 405875.

