The Coal Authority

Cyfoeth Naturiol Cymru Natural Resources Wales

Cwmystwyth Metal Mine

The Metal Mine Programme

February 2024

Background

Abandoned metal mines cause significant pollution in Wales, harming river ecology with metals like cadmium, lead, zinc and copper. There are approximately 1,300 abandoned metal mines across Wales that have been estimated to impact over 700 km of rivers.

Natural Resources Wales (NRW) and the Coal Authority (CA) are working together on the Metal Mine Programme to address this polluting legacy. The Programme is funded by Welsh Government.

The primary aim of the programme is, where technically and financially feasible, to reduce pollution from abandoned metal mines to improve the health of our rivers, benefiting the environment, people and the economy.

In doing so this will directly contribute to the sustainable management of natural resources in Wales, and enhance community well-being benefits, as detailed in the Environment (Wales) Act 2016 and the Well-being of Future Generations (Wales) Act 2015.

Project Context

The former Cwmystwyth Mine is located in the upper reaches of the Ystwyth valley approximately one kilometre east of the village of Cwmystwyth, Ceredigion. The Afon Ystwyth receives all surface and sub-surface drainage from the mine which is a significant source of metals pollution including lead, cadmium, and zinc.

This input of metals contributes to the Afon Ystwyth failing its Water Framework Directive standards for zinc, with zinc remaining elevated downstream of the mine as far as the sea at Cardigan Bay. The metal inputs impact both water quality and ecology.

Cwmystwyth is therefore one of our high priority sites and subject of a specific project to reduce this pollution.

The mine is in an area with high ecological, landscape and heritage value, and the project will consider these environmental sensitivities and constraints both on site and off site.

The project team will work proactively with communities and our partners to achieve the best possible outcomes from any works carried out.

Project Progress

Over the past few years, we have been gathering information to better understand the pollution sources from Cwmystwyth Mine and to identify potential intervention options.

In 2020 we completed a Feasibility Study to collate relevant information and develop an Outline Design to maximise pollution prevention and other environmental benefits, whilst considering costs and designation constraints such as ecological / heritage protections.

We have also completed ground investigations, heritage, ecological and landscape assessments, topographical and geophysical surveys, and further targeted water quality monitoring. This information has been used to refine the Outline Design.

A combination of the potential options presented below will be needed to successfully manage the range of pollution sources at Cwmystwyth Mine.
We welcome your input as we continue to develop our options, as well as any wider environmental, social and economic opportunities available.

Possible Mitigation Options

- Mine Water Treatment
- Spoil heap erosion controls
- Sediment control
- Mine waste reprofiling with/without capping
- Surface water management e.g. mine site drainage
- Watercourse management e.g. separation

Mining Heritage and Ecology

The Cwmystwyth Mine sits within an area of high archaeological and ecological sensitivity relating to the mine and its associated spoil heaps.

These include ecological features of interest within the Mwyngloddiau Cwmystwyth Site of Special Scientific Interest (SSSI). A number of rare plants grow on the metal-rich spoil heaps, including lichens and bryophytes which form 'Calaminarian Grassland' habitat.

The mine is also located within the Elenydd Special Area of Conservation (SAC) and borders the Elenydd-Mallaen Special Protection Area (SPA). Breeding birds of importance which have nest sites within the SPA include the red kite, peregrine falcon and merlin.

Cwmystwyth Mine is linked via the AfonYstwyth to further ecologically sensitive areas downstream on both the river itself and on the coast, where it discharges into sensitive marine habitats in Cardigan Bay.

The entire mine site, including underground workings, is designated as a Scheduled Monument. The mine is owned by Cambrian Mines Trust (CMT), who were formed to purchase and preserve Cwmystwyth Mine in 2012.

The mine is recognised as one of the most important metal mining sites in Wales. CMT is striving to preserve and promote the cultural and archaeological features of the site, so that it can be better appreciated by the wider public.

Further information on Cwmystwyth Mine and the work of CMT can be found here: **www.cambrianmines.co.uk**

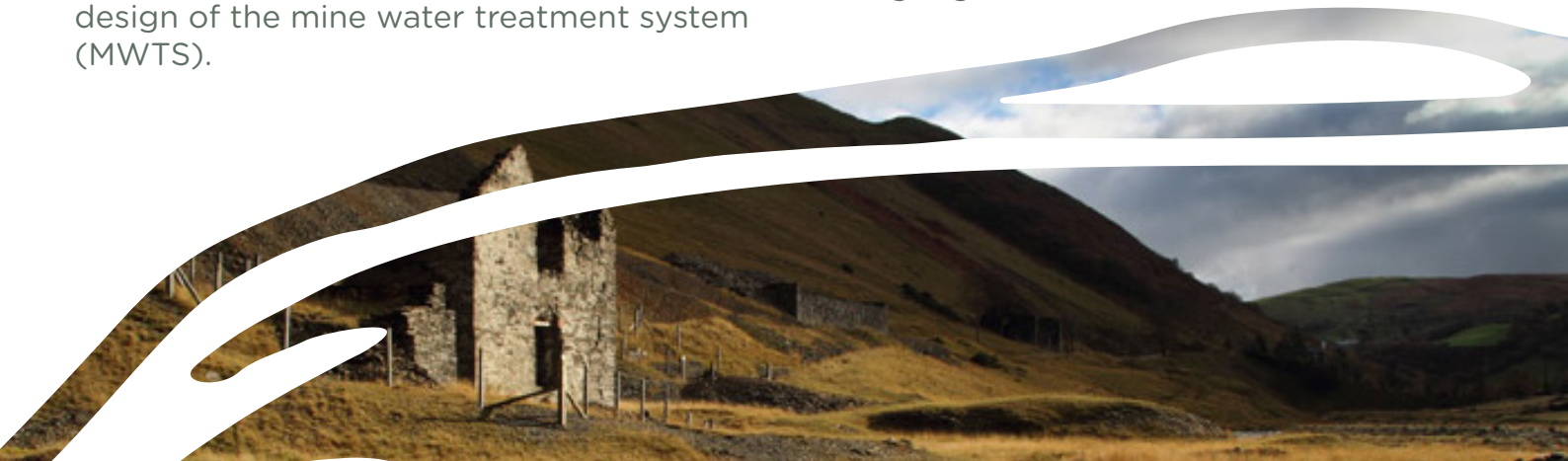
Next Steps

The Outline Design of intervention and remediation measures identified by the Feasibility Study will be further developed, including consultation with stakeholders, before applying for planning permission and other regulatory consents required.

This will be a phased strategy, with design and construction of enabling works (surface water and watercourse management) followed by 12 months monitoring; the results of which will be used to refine the design of the mine water treatment system (MWTS).

The construction, commissioning and operation of the MWTS is the final phase for the long-term management of the pollution sources. An indicative timeline is presented below, this is subject to securing the required funding.

We would like the local community and other stakeholders to play a key part in this process. We will be holding public consultation events later in the project and issuing regular newsletters.



Current Timeline

To date

Defining the Problem and Identification of Preferred Mitigation Option

Feasibility Study.

Options Appraisal.

Concept/Outline Design.

Baseline Surveys to support Outline Design and identify potential impacts to the environment.

2023 to 2025

Further Development of Outline Design and Surveys

Produce outline business case.

Engagement with Design Engineers and Contractor to develop Outline Design.

Bat, Raptor and Lower Plant Species surveys.

Production of planning application and supporting documentation.

2025

Obtain Planning Consent

Submit planning application and obtain approval for all pre-start conditions.

Engage with landowners.

Continued stakeholder engagement.

2025 to 2027

Detailed Design and Construction

Detailed Design and construction of all enabling works for MWTS and subsequent monitoring.

Continued stakeholder engagement.

2027 to 2028

Construction and Monitoring

Detailed Design of MWTS, construction commission and operation of MWTS.

Keeping in Touch and How to Get Involved

We want to hear from you, as we progress the Cwmystwyth Mine Project and explore the wider environmental and social opportunities that can be developed as part of the preferred strategy for this site.

Explore Cwmystwyth Mine Project as well as the wider Metal Mine Programme by using the following links:

bit.ly/Cwmystwyth_MetalMine

bit.ly/MetalMineWaterPollution

If you'd like to share your views, be added to an email mailing list, or have any questions please get in touch on the details below:

0300 065 3000

Cwmystwyth@metalmineswales.co.uk

The Coal Authority

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Old mines are dangerous places with many hidden hazards. Many of our projects are located on private land where public access is not permitted without landowner approval.

STAY MINE SAFE