

Environmental Screening Advice Note

Screening completed by	Heulwen Baughn, Environmental Assessment Team (EAT)
Date	23 rd January 2023 - 1 st Issue (Draft) 27 th February 2023 – 2 nd Issue

Project Name	Mynach Waterbodies				
Location	Near Devils' Bridge, Ceredigion	Grid reference	Flow Structure 1: SN 78861 79953 (near Nantycreiau mine) Flow Structure 2: SN 78665 79625 (near Nantycreiau West mine) Flow Structure 3: SN 75881 76986 (near Bodcoll mine)		
Senior User	ТВС	Senior User Post Title			
Project Manager	Markia Gates	Project Manager Post Title			
Community Risk Register Area (for FRM projects)	TBC	Strategic Context e.g. CFMP / SMP Policy, RBMP			



Set out the background, scope, description, and objectives of the project (information from project mandate)

Background: The 2012 WFD Abandoned Mines Project for the Afon Rheidol catchment splits the Afon Rheidol river system into seven waterbodies. This project focusses on a part of one of the seven waterbodies, namely WFD waterbody GB110063041560 Mynach headwaters to confluence with Rheidol. The WFD waterbody is classified as Moderate quality with failures for a number of heavy metals (copper, lead, nickel and zinc). The WFD waterbody includes Nant Mynheirin (+ tributaries) and Nant Rhuddnant which converge to form the Afon Mynach which then joins the Afon Rheidol. This is referred to as the Mynach Waterbodies project.

Project Description: The Mynach Waterbodies project area includes a total of 13 mine areas which feed into the Nant Myherin (+ tributaries), Nant Rhuddnant and Afon Mynach rivers which make up the Mynach Waterbodies.

The project includes a detailed water sampling regime, and also the installation of three (3) flow structures:

- Flow Structures 1 and 2 are located on the Nant Y Creuau stream, near to Nantycreiau and Nantycreiau West mine outfalls; and
- Flow Structure 3 is located on the Afon Mynach, near to the Bodcoll mine outfall.

Project Objective: Nantycreiau and Bodcoll mines are classified as 'Red' mines and form two of the Coal Authoritie's 'Top 50' mines. Four other mines within the catchment (Nantycreiau West, Nant Syddion North, Nant Syddion and Mynach Vale mines) are also classified as 'Amber'. The purpose of this project is to obtain data on flows and contamination levels occurring from these mines in order to inform future waterbody / mine remediation projects in order to contribute to the improvement of the WFD waterbody status.

Scope of screening advice note: No other structural or intrusive works are currently proposed as part of the Mynach Waterbodies project. This screening foccusses on the installation of these 3 flow structures listed above. The proposed water sampling is considered to be low risk and does not require formal screening.

Screening has been undertaken on the understanding that no additional access or compound areas are required. Please re-



consult the Environmental Advisor if this understanding is incorrect, or if there is any other change to the scope of the works outlined above.

Flow Structures & Mines Location Plan:



Environmental Screening

	Environmental Desk Based Assessment	Follow up Action Required	Who will carry out the follow up action?	Action Tracker
	Population & Human Health There are a number of Public Rights of Way within the site and in proximity to the flow structures, but will not be directly impacted upon by the installation of the flow structures.	Population & Human Health (Recreation) If PRoW closures/diversions are required for the construction of the flow structures, liaise with LPA footpaths officer.	Project Manager	To be completed by PM to document whether action has been completed.
Key environmental receptors	Biodiversity, Fisheries & Invasive Non Native Species Calaminarian grassland/metallophyte surveys have been conducted at Bodcoll Mine near Flow Structure 3 (Refer to Calaminarian Habitat Surveys in Ceredigion 2020 - 21 C. Forster Brown, S.P. Chambers, Natural Resources Wales Evidence Report No: 532). The survey identified colonies of metallophytes present on the least disturbed spoil tips. Calamanarian grassland is a Priority Habitat, and surveys at Bodcoll indicate Caliminarian grassland presence reaches the SSSI qualification threshold so should be	Biodiversity, Fisheries & Invasive Non Native SpeciesCRoW (SSSI) Assent may be required due to proximity to Flow Structures 1 and 2, this should be confirmed with NRW's Ceredigin Area Environment Team. In addition, CRoW (SSSI) Assent may be required for work near Bodcoll Mine known to contain areas of Caliminarian grassland (Flow Structure 3 is currently outside of this area).HRA not thought to be required due to distance to nearest SAC (1.1km downstream) and small scale of proposed works. TBC with Ceredigion Area	Project Manager	Advice Note should then be used as supporting document when applying for project approval (e.g. submissions to Project Approval Board / Programme Board).

treated as SSSI.	Environment Team.	
SPA 'Elenydd - Mallaen' is located 360m north and east of Flow Structure 1 and 630m northeast (and also extends south, with southern extent being located approximately 3km southeast of Flow Structure 2). SPA UK9014111 Register Entry EN001 (naturalresources.wales)	Ecological (lower plant specialist) supervision/advice required to ensure construction avoids impacts to areas of metallophytes/Calaminarian grassland near Flow Structure 3. Should flow structures or works access locations have potential to effect areas surveyed as having lower plants interest, consult Sam Bosanquet (NRW Lower Plans Specialist Advisor).	
both are located approximately 360m northeast of Flow Structure 1 and 630m northeast from Flow Structure 2. DYFED (naturalresources.wales) DYFED (naturalresources.wales)	Invasive Non Native Species checks to be undertaken prior to construction.	
Coedydd a Cheunant Rheidol / Rheidol Woods and Gorge SAC and SSSI are located 1100m southwest (downstream) of Flow Structure 3. <u>Microsoft Word - Coedydd a Cheunant</u> <u>Rheidol - Rheidol Woods and Gorge.doc</u> (<u>naturalresources.wales</u>) DYFED (naturalresources.wales)		
In addition, Bryn Bras SSSI, Chwarel Ponterwyd (Ponterwyd Quarry) SSSI, Mwyngloddfa Castell SSSI, and Coed Rheidol NNR are also located between 1- 2km away from the flow structure locations. BRYN BRAS SSSI		

(naturalresources.wales) CHWAREL PONTERWYD (PONTERWYD QUARRY) SSSI (naturalresources.wales) DYFED (naturalresources.wales) Invasive Non Native Species may be present but have not currently been identified. Local records indicate the project area also includes the following priority/protected species: Staghorn Clubmoss, Globeflower, Leadmoss, Eyebright.			
Land (eg land take), Geology and Soils (eg organic matter, erosion, compaction, sealing) The project area is a historic mining area and therefore contains a number of heavily contaminated spoil heaps and contaminated areas associated with the historic mines. Soil should therefore be considered and treated as potentially contaminated with heavy metals and contamination testing should be undertaken if any excavation and material movement is required as part of the work. The wider area supports sheep farming and forestry (coniferous).	Land, Geology & Soils The proposed works do not involve significant earthworks. Any areas of excavation should be assessed for contamination risk and managed accordingly. Consult with NRW' Geoscience Team (geoscience@cyfoethnaturiolcymru.gov.uk). if any significant earthworks are included at a later date to confirm any testing and/or other requirements. Consult with Bob Mathews if any works proposed within the RIGS.	Project Manager	

BGS Maps show bedrock at Flow Structure 1,2 and 3 is Devils Bridge Formation comprising Mudstone and Sandstone, interbedded. With some pockets of clay, silt, sand and gravel superficial deposits near to Flow structures 1 and 2, and and area of Till deposits around flow structure 3. Agricultural Land Classification at Flow Structure 3 (Bodcoll) is 4: Poor quality agricultural land. Land at Flow Structures 1 and 2 is unclassified. Flow Structure 1 located 25m south of Nant y Creuau Mine Regionally Important Geodiversity Site (RIGS).			
Water (eg hydromorphological changes, quantity and quality) The catchment contains one WFD Main River: 'Mynach - headwaters to confluence with Rheidol' (GB110063041560), which extends throughout the catchment study area. The WFD waterbody is classified as Moderate quality with failures for a number of beauty metals (conner, load	Water (inc WFD)Flood Risk Activity Permit may be required for the works. Confirm with Flood Risk Analysis / Ceredigion Area Environment Team.Appropriate mitigation to be implemented during installation of flow structures to ensure pollution prevention control and mitigate rick of pollution of watercourses at	Project Manager	
nickel and zinc). Flow monitoring structures are located on tributaries rather than directly on this	and downstream of the works. Also refer to HRA and SSSI Assent (if required) for any mitigation requirements relating to water courses.		

WFD waterbody.	Concult with Corodicion Area Environment	
Within the project area. Nantversiou and	Toom to confirm whether WED accossment	
Bodcoll mines are classified as 'Red'	is required for the flow structures	
mines and form two of the Coal	is required for the new structures.	
Authoritie's 'Top 50' mines. Four other	Consult with Local Authority to confirm	
mines within the catchment (Nantycreiau	whether Ordinary Watercourse Consent is	
West, Nant Syddion North, Nant Syddion	required.	
and Mynach Vale mines) are also		
classified as 'Amber'. These historic		
heavy metal mines contribute to the		
contamination of the waterbody system		
catchment and to the Moderate		
classification of the WFD waterbody		
olacometation of the Wild Waterbedy.		
<u>Air</u>	Air	
None anticipated given scale and nature	None anticipated.	
of the work.		
Climate (eg greenhouse gas	Climatic Factors	
emissions, impacts relevant to	None anticipated.	
adaptation)	· · · · · · · · · · · · · · · · · · ·	
None anticipated given scale and nature		
of the work.		
Landecano	Landscapa	
<u>Lanuscape</u> The project area is located within the	Lanuscape None enticipated	
Ine project area is located within the		
Area		
,		

There is an Ancient Woodland Site of Unknown Category located 150m south of Flow Structure 2. There are 2 areas of ancient woodland within 200m of Flow Structure 3, namely a 'Plantation on Ancient Woodland Site' located approximately 180m downstream at Coed Llaneithyr, and a 'Restored Ancient Woodland Site' approximately 180m upstream on the Mynach.			
Cultural Heritage A number of Scheduled Ancient Monuments (SAM) are located within the project area, namely: SAM Lluest Nantycreuau Deserted Rural Settlement (Post Medieval Domestic Settlement) is located 390m south of Flow structure 1, 50m south of Flow structure 2 and 830m northwest of Flow Structure 3. SAM Nant yr Helygen Deserted Rural Settlement 750m west of Flow Structure 1 and 2 and 1000m west-northwest of Flow Struture 3.	Cultural Heritage Flow Structure 2 may require Scheduled Monument Consent if located in close proximity to SAM Lluest Nantycreuau Deserted Rural Settlement. Or relocation of Flow Structure 2 may be required to avoid SAM in agreement with Dyfed Archaeological Trust and CADW. Liaise with Dyfed Archaeological Trust and CADW to confirm that no impact to nearby SAMs and confirm no Scheduled Monument Consent is required for the installation of the Flow Structures 1 and 3.	Project Manager	
SAM Esgair Naint Deserted Rural Settlement 1100m west of Flow Structures 1 and 2.			
	There is an Ancient Woodland Site of Unknown Category located 150m south of Flow Structure 2. There are 2 areas of ancient woodland within 200m of Flow Structure 3, namely a 'Plantation on Ancient Woodland Site' located approximately 180m downstream at Coed Llaneithyr, and a 'Restored Ancient Woodland Site' approximately 180m upstream on the Mynach. Cultural Heritage A number of Scheduled Ancient Monuments (SAM) are located within the project area, namely: SAM Lluest Nantycreuau Deserted Rural Settlement (Post Medieval Domestic Settlement) is located 390m south of Flow structure 1, 50m south of Flow Structure 2 and 830m northwest of Flow Structure 3. SAM Nant yr Helygen Deserted Rural Settlement 750m west of Flow Structure 1 and 2 and 1000m west-northwest of Flow Struture 3. SAM Esgair Naint Deserted Rural Settlement 1100m west of Flow Structures 1 and 2.	 There is an Ancient Woodland Site of Unknown Category located 150m south of Flow Structure 2. There are 2 areas of ancient woodland within 200m of Flow Structure 3, namely a 'Plantation on Ancient Woodland Site' located approximately 180m downstream at Coed Llaneithyr, and a 'Restored Ancient Woodland Site' approximately 180m upstream on the Mynach. Cultural Heritage A number of Scheduled Ancient Monuments (SAM) are located within the project area, namely: SAM Lluest Nantycreuau Deserted Rural Settlement (Post Medieval Domestic Settlement) is located 390m south of Flow structure 1, 50m south of Flow Structure 3. SAM Nant yr Helygen Deserted Rural Settlement 1100m west of Flow Structure 1 and 2 and 1000m west-northwest of Flow Structure 3. SAM Esgair Naint Deserted Rural Settlement 1100m west of Flow Structure 3 and 2. SAM Banc Erw Barfe Deserted Rural Settlement 1200m north of Elow Structure 	There is an Ancient Woodland Site of Unknown Category located 150m south of Flow Structure 2. Image: Constructure 3 and the second structure 4 and the second structure 5 and the second structure 5 and the second structure 4 and the second struct

	3.			
	The area is also rich in mining history.			
	Local Trust is Dyfed Archaeological Trust.			
	Material Assets The majority of the project area is in the ownership of Natural Resources Wales (Cwn Rheidol Crown Land, Forest Deeds), with the exception of the Bodcoll Mine area where Flow Structure 3 is located.	Material Assets Obtain Landowner consent for Flow Structure 3.	Project Manager	
	Proposed installation of flow structures is not likely to require planning consent.	Confirm planning/PD route with LPA.	Project Manager	
Likely consenting	Work is thought to fall under permitted development (PD) rights.			
Toule	The scale and nature of proposals do not require an EIA or EIA screening.			
Other	 Likely to be required: CRoW (SSSI) Assent Scheduled Monument Consent 	1	Project Manager	
approvals required	Possibly required: • Habitat Regulations Assessment			
	 Ordinary Watercourse Consent Protected Species Licencing 			

	Flood Risk Activity Permit		
Environmental opportunities	 In delivering our projects we should consider what wider benefits we can deliver, for example: Are there any opportunities for using green engineering / green infrastructure? 	Project Manager	<i>Ensure any</i> <i>benefits</i> <i>delivered are</i> <i>reported to the</i> <i>benefactor and</i> <i>to the</i> <i>communications</i> <i>team for</i> <i>publicising.</i>

A map highlighting some of the scheme constraints has been included within <mark>Annex 2</mark>. Record of all consultation responses can be found within <mark>Annex 3</mark>.

Screening Conclusion

- Following internal consultation, it has been determined that this project is medium risk not likely to lead to significant environmental effects provided that good working practices and any additional mitigation identified is implemented. Unless the project scope changes, this project does not require Environmental Assessment Team (EAT) involvement.
- This note has been prepared to assist the project manager (PM) in taking forward actions and in documenting this for project approval purposes. The PM can seek assistance from local Environment Team for specific tasks identified in Table 2, which must be agreed as part of the project planning stage. If at any point the scope of the works changes from that described above, the project manager must contact the local Environment Team to confirm whether a revised determination is required.
- The project manager is responsible for ensuring the follow up actions are undertaken to ensure the environmental risk is managed.

Annex 2: constraints plans







Annex 3: parties consulted in the screening

Name	Function	Date issued	Response received	Comments Received	Action taken to address comments
Steve Meaden	NRW Health Policy Team (HIA)		10/01/2023	Taking into account the potential significant benefits to population and human health from the metal mines programme per se, the specific detail in the project brief for the Mynach Waterbody Mines on its impacts on health are currently Minor and so nothing further advised at this stage . As project detail progresses through the lifecycle this may require a further review once optioneering, design and plans for a preferred remedial intervention are more known. A recommended action at this stage would be to introduce the project to the relevant place- based team to offer any further local context to the area.	None required at this stage.
Alice Pyper / Felicity Sage	Dyfed Archaeological Trust				
Carol Fielding	Ceredigion Area Environmental Team		20/01/2023	Thank you for consulting the Ceredigion Environment Team on this proposal to undertake water quality monitoring and the installation of three water flow structures near Bodcoll and Nantycreuai mines. Note that our advice below is specific to these works and we should be re- consulted if the scope of the works	Reconsult with Ceredigion Environmental Team/Carol Fielding with flow structure details requested, in order to confirm requirements for HRA, SSSI Assent and WFD assessment.

		is amended including the need for	
		access structures or works	
		access structures of works	
		compounds.	
		With regard to Bodcoll mine we	
		note that Forster Brown &	
		Chambers (2021) Calaminarian	
		Habitat Surveys in Ceredigion	
		2020 - 21 Natural Resources	
		Wales Evidence Report No: 532	
		identifies the mine as having high	
		value for calaminarian habitat. No	
		detailed map of the location of the	
		flow structure and any associated	
		infrastructure in relation to the	
		mina is provided and there is also	
		nulle is provided and there is also	
		no details of the nature of the now	
		structure. The grid reference you	
		have provided for the flow	
		structure appears to locate it away	
		from the mine spoil heaps and the	
		calaminarian habitat. Please could	
		this be confirmed by providing a	
		more detailed map than in the	
		current ESAN?	
		With regard to the Nantycreiau	
		mine we have been unable to	
		source any recent surveys of	
		Calaminarian napitat at this site.	
		The map in the ESAN appears to	
		suggest the two flow structures are	
		located at a distance from the	
		mine and their installation is again	
		lower risk for calaminarian habitat.	
		Again no details have been	
		provided of the nature of the flow	
		structure. Please could vou	
		provide a detailed map with the	
		location of the flow structures in	
		relation to the mine spoil heaps	
		relation to the mine spon neaps	

		and further details of the flow	
		structure?	
		With regard to the need for assent	
		and HRA we consider these are	
		not necessary with one exception	
		In relation to flow structures 1 and	
		2 the only potential impact	
		pathway is via disturbance to	
		breeding bird features of the	
		Elenvdd Mallaen SPA. The risk will	
		be dependent on when you are	
		intending to install and maintain	
		the structures and the hebitet in	
		the structures and the habitat in	
		the vicinity to the proposed	
		locations i.e. whether there is	
		potentially breeding locations. We	
		suggest there is an on-site	
		applagical appagament with regard	
		to this risk or mitigation suggested	
		such as work outside the bird	
		breeding season.	
		Ũ	
		In relation to the need for WED	
		accompany places could you	
		assessment please could you	
		provide more information on the	
		flow structures prior to us giving	
		further advice on this aspect. How	
		long will the structures remains in	
		eitu?	
		Situ :	
		Any installation of the structures	
		will need pollution control	
		measures given the structures are	
		within a watercourse. Do you now	
		have confirmation from CCC as to	
		whether a OWC is required?	
		The other potential risk is to	
		protected species such as water	
		vole and other species of high	
	1	and caller oppoloo of high	

			conservation concern. We recommend that an ecological assessment of the works sites is undertaken by a suitably competent and experienced surveyor prior to any works being planned.	
Bob Mathews	Geology	24 and 25/01/2023	Nant y Creuau Mine is a Regionally Important Geodiversity Site (RIGS) – these latter are a set of 2nd tier sites that lie beneath our networks of nationally/internationally geological SSSI. I wrote the original RIGS registration document for the site many years ago (see attached) based on an original assessment made in 1996 by mineralogical experts at the National Museum, Cardiff. I submitted the draft document to Prof. Bill Fitches, who until recently was the local RIGS co-ordinator, and I believe the site has since been formally registered as a RIGS with Ceredigion Council. B. NantyCreiau Mine.DOC	Nant Y Creuau RIGS site present – consult with Bob Mathews if work proposed within RIGS site. Currently flow structures are located outside of RIGS site.
Sam Bosanquet	Lower Plants	24/01/2023	I'm surprised to hear about this cluster of mines, because I thought they were relatively low priorities for remediation otherwise we would have included them in the Calaminarian mapping. As it is, we've only got good ecological information on Bodcoll (as you correctly highlighted) and we really	Lower plant surveys required at Nant Y Creuau prior to any significant construction and prior to future remediation work. Bodcoll should be treated as SSSI due to presence of

			should get the remainder surveyed for Calaminarian before things go too far. Bodcoll reaches the SSSI qualification threshold so should be treated as though it's a SSSI. Water sampling isn't likely to cause any impacts unless there are significant structures being built, but some physical damage to the Calaminarian and its constituent lichens is possible. Any remediation works will clearly need detailed ecological surveys.	Caliminarian grassland.
Oliver Lowe	Geomorphology		I am potentially very concerned about the flow monitoring structures being proposed, plus the scour protection at base of spoil heaps and potentially the remediation measures. Depending on their format and location the flow monitoring structures may need significant consideration – both in terms of the need for impoundment licences and their impact on the environment. Namely there is a risk of installing impounding structures that cause erosion and scouring of the bed and banks which may include some of the very contaminants you are hoping to manage. Further to the above, any scheme proposed, where likely to be in the proximity of a watercourse, should seek the professional input from a Geomorphologist in order to utilise river restoration techniques to best manage the long term aims and	Consult further with Oliver Lowe on flow structures, and arrange geomorphological walkover of site areas.

		acele of both the project and the	
		goals of both the project and the	
		waterbody given the naturally	
		mobile nature of rivers. Proposals	
		should not be brought forward that	
		Should not be brought forward that	
		seek to inhibit natural river	
		processes, both in channel and out	
		of bank. Consideration of the fact	
		that rivers move sediment, and	
		move themselves both laterally	
		and vertically should be factored in	
		to only proposale. As such the	
		to any proposais. As such the	
		input from a Geomorphologist from	
		early on in the process, through to	
		delivery, is recommended.	