

National Peatland Action Programme, 2020-2025



Cyfoeth Naturiol Cymru / Natural Resources Wales, 27 November 2020

Contents

Contents.....	2
Rhagair y Gweinidog.....	3
Ministerial Foreword.....	5
Rhagair gan Brif Weithredwr Cyfoeth Naturiol Cymru.....	7
Foreword by the Chief Executive of Natural Resources Wales.....	9
Crynodeb.....	11
Summary.....	13
1. Introduction.....	15
2. Requirement for a Coordinated National Action Programme.....	17
2.1. Welsh Government Peatland Policy.....	17
2.2. Policy Framework.....	18
2.3. Pressures and Condition.....	19
3. Peatlands of Wales.....	22
3.1. Characterising Peat Soils.....	22
4. National Peatland Action Programme – Priority Themes & Actions.....	24
5. Programme Staffing Structure and Governance.....	26
6. Costing the Programme.....	26
7. Programme Progress & Development.....	27
7.1. End of Programme Review.....	27
7.2. Monitoring, reporting and evidence.....	27
8. Building Wider Understanding of and Support for Peatland Restoration.....	28
9. Annual Programme Reporting.....	28
10. Acknowledgements.....	29
11. References.....	30
Annex A. Relationship between National Peatland Action Programme objectives and key policies and guidance.....	32
Annex B Outline of key project actions during year 1 and the scope of actions for years 2-5 (separate document).....	36

Rhagair y Gweinidog



Mae'r Prif Weinidog a minnau wedi cyfeirio'n aml at ddifrifoldeb yr argyfwng sy'n wynebu natur ac effaith newid yn yr hinsawdd gyda chysylltiad annatod rhwng llawer o'r heriau a'r atebion.

Mae cyhoeddi'r Rhaglen Weithredu Genedlaethol gyntaf ar Fawndiroedd yn nodi carreg filltir arwyddocaol wrth fynd i'r afael â'r bygythiad brys a ddaw yn sgil newid yn yr hinsawdd a cholli bioamrywiaeth. Bydd adfer mawndiroedd Cymru yn cychwyn ar y broses o wyrddio'r dirywiad yn ein hamgylchedd ar gyfer cenedlaethau'r dyfodol ac ar yr un pryd yn cadw stociau carbon enfawr dan glo yn y ddaear.

Yn 2017, rwy'n cofio ymweld â'r safle bywyd gwyllt enwog yn rhyngwladol yng Nghors Caron, ger Tregaron, lle gwelais dros fy hun y gwaith pwysig sy'n cael ei wneud gan Cyfoeth Naturiol Cymru i wella cyflwr cyforgorsydd Cymru. Ynghyd â gwaith llawer o bartneriaid ledled Cymru, cychwynnodd y grant rhaglen LIFE UE hwn a Chynllun Rheoli Cynaliadwy Llywodraeth Cymru ar y broses o adfer mawndiroedd Cymru.

Yn 2020 mewn cyfnod o argyfwng newid hinsawdd, rydym bellach yn gosod ein hunain ar flaen y gad mewn mudiad cymdeithasol ehangach i frwydro yn erbyn yr argyfwng ac adfer ein hamgylchedd naturiol. Mae'r symudiad ehangach hwn bellach yn gofyn i ni adeiladu ar y gwaith cryf a welais yng Nghors Caron trwy raglen adfer a gydlynir yn genedlaethol, tîm rhaglen ymroddedig a'r cyllid craidd sylweddol yr wyf yn ei ddarparu.

Mae'r ffaith bod gwytnwch ein hecosystemau a'n bioamrywiaeth yn parhau i ddirywio a bod effeithiau newid yn yr hinsawdd eisoes i'w gweld yn tanlinellu pam ei bod yn hanfodol ein bod yn gweithredu nawr i gyflawni'r blaenoriaethau a nodwyd gan Cyfoeth Naturiol Cymru yn y ddogfen hon.

Yn y pen draw, er mwyn adfer mawndir ar raddfa a chyflymder bydd angen buddsoddiad tymor hir a gweithio mewn partneriaeth ar draws sectorau. Dyma pam rwyf mor falch o gychwyn y gwaith hwn trwy'r rhaglen hon a gweld ymrwymiad Cyfoeth Naturiol Cymru i ailgyfansoddi Grŵp Gweithredu Mawndir Cymru a gwneud gwaith cydweithredol yn ganolog i'r dull gweithredu.

Edrychaf ymlaen at barhau i weithio gyda Cyfoeth Naturiol Cymru a chi wrth i ni ddechrau cyflwyno'r rhaglen bwysig hon.

A handwritten signature in black ink, reading 'Lesley Griffiths'. The script is cursive and fluid, with the first name 'Lesley' and the surname 'Griffiths' clearly distinguishable.

Lesley Griffiths AS

Gweinidog yr Amgylchedd, Ynni a Materion Gwledig

Ministerial Foreword



The First Minister and I have often referred to the crisis facing nature being every bit as serious as the impact of climate change with many of the challenges and solutions being inextricably linked.

The publication of the first National Peatland Action Programme marks a significant milestone in addressing the urgent threat posed by climate change and biodiversity loss. Restoring Welsh peatlands will begin the process of reversing the decline in our environment for future generations and at the same time keep vast carbon stocks locked in the ground.

I remember visiting in 2017 the internationally renowned wildlife site at Cors Caron, near Tregaron, where I saw for myself the important work being undertaken by Natural Resources Wales to improve the condition of Welsh raised bogs. Along with the activity of many partners across Wales, this EU LIFE programme grant and the Welsh Government's Sustainable Management Scheme began the process of restoring Welsh peatlands.

In 2020 and by declaring a climate change emergency, we now place ourselves on the leading edge of a wider social movement to combat the crisis and restore our natural environment. This wider movement now requires us to build on the strong work I saw at Cors Caron through a nationally coordinated restoration programme, a dedicated Programme team and the significant core funding I am making available.

The fact that the resilience of our ecosystems and our biodiversity continues to be in decline and the impacts of climate change are already being seen underlines why it is vital that we take action now to deliver the priorities set out by NRW in this document.

Ultimately, delivering peatland restoration at scale and pace will require long term investment and partnership working across sectors. This is why I am so pleased to initiate this work through this programme and see NRW's commitment to reconstituting the Welsh Peatland Action Group and make collaborative working central to the approach.

I look forward to continuing to work with NRW and you as we start to deliver this important Programme.

A handwritten signature in black ink, reading 'Lesley Griffiths'. The signature is written in a cursive, flowing style with a large 'L' and 'G'.

Lesley Griffiths MS

Minister for Environment, Energy and Rural Affairs

Rhagair gan Brif Weithredwr Cyfoeth Naturiol Cymru

Mae mawndiroedd yn crynhoi craidd y peth yr ydym yn ceisio'i gyflawni yng Nghymru trwy reoli adnoddau naturiol yn gynaliadwy. Fel mae nifer ohonom yn gwybod, adfer ac wedyn cynnal mawndiroedd mewn cyflwr ecolegol da yw'r unig ffordd y gallwn ddiogelu a chynnal eu bioamrywiaeth gyfoethog a sicrhau bod yr ystod lawn o wasanaethau ecosystemau sy'n gysylltiedig â mawndiroedd yn cael ei chynyddu i'r eithaf. Mae'r gwasanaethau hyn yn cynnwys storio a dal carbon, rheoli llifogydd yn naturiol, cynhyrchu bwyd trwy bori, ac ystod eang o wasanaethau eraill. Felly, mae'n gwneud synnwyr da i flaenoriaethu adfer mawndiroedd ble bynnag y gallwn ac mae hyn yn dod i'r amlwg yn gyflym fel thema gyffredin yn ein gwaith i ddatblygu a gweithredu rhaglenni gwaith Datganiadau Ardal. Mae camau i adfer mawndiroedd yn darparu ystod sylweddol iawn o atebion ar sail natur i gyfres o faterion a phroblemau amgylcheddol dybryd yng Nghymru a bydd y rhaglen hon yn cyfrannu mewn ffordd arwyddocaol iawn at fynd i'r afael â'r argyfwng natur ac argyfwng y newid yn yr hinsawdd.

Mae'r Rhaglen Weithredu Genedlaethol ar Fawndiroedd hon, sydd newydd gael ei lansio, yn rhoi modd inni gyflwyno rhaglen gyffrous o waith adfer a rheoli mawndiroedd mewn partneriaeth ag eraill dros y pum mlynedd nesaf ac rydym yn diolch i'r Gweinidog a Llywodraeth Cymru am ddarparu buddsoddiad mor sylweddol yn y gwaith hwn. Bydd y rhaglen yn canolbwyntio ar fynd i'r afael â chanlyniadau allweddol a symptomau achosol diraddiad mawndiroedd ledled Cymru a bydd hefyd yn darparu cydgysylltu a chymorth cenedlaethol.

Mae rôl Cyfoeth Naturiol Cymru yn y rhaglen hon yn seiliedig ar lawer o flynyddoedd o brofiad a gafwyd ym maes amddiffyn, rheoli ac adfer mawndiroedd. Cafodd rhai o'n Gwarchodfeydd Natur Cenedlaethol cyntaf eu henwi i amddiffyn safleoedd mawndir rhyfeddol fel Cors Caron yn Nhregaron. Mae Gwarchodfeydd Natur Cenedlaethol mawndir enwog eraill ledled y wlad yn cynnwys Cors Fochno (hefyd yng Ngheredigion), Cors Erddreiniog ar Ynys Môn a Chors Crymlyn ger Abertawe, ac, at ei gilydd, mae rhyw 21 o'n Gwarchodfeydd Natur Cenedlaethol yn cynnal elfen mawndir sylweddol. Mae ein profiad o reoli'r safleoedd hyn gydag amrywiaeth o bartneriaid yn ymestyn yn ôl dros 50 mlynedd neu fwy mewn rhai achosion. Mae Cyfoeth Naturiol Cymru hefyd yn arwain yn genedlaethol ar y berthynas â nifer o berchnogion a rheolwyr y gyfres o Safleoedd o Ddiddordeb Gwyddonol Arbennig, ac mae cynefinoedd mawndir yn cyfrif fel y prif reswm neu un o'r prif resymau dros ddewis dim llai na 169 o Safleoedd o Ddiddordeb Gwyddonol Arbennig yng Nghymru, gyda chyfanswm o 47,440 hectar o fawn (dros hanner cyfanswm adnodd Cymru) wedi'u cynnwys ar draws y gyfres. Ceir ardaloedd sylweddol pellach o fawn ar Ystad Goetir Llywodraeth Cymru, ac mae'r flwyddyn gyntaf hon o'r Rhaglen Weithredu Genedlaethol ar Fawndiroedd yn cynnwys gwaith i ddechrau adfer cynefin mawndir sydd wedi'i effeithio gan ddraenio a phlannu coed yn y gorffennol.

Mae Cyfoeth Naturiol Cymru hefyd wedi magu arbenigedd sylweddol ym maes datblygu a chyflenwi prosiectau adfer mawndir ar raddfa fawr – mae'r rhain yn cynnwys prosiect LIFE Ffeniau Ynys Môn a Llŷn, ein prosiect LIFE newydd cyfredol ar gyfer Cyforgorsydd Cymru, ac ein cynlluniau i gyflwyno cynnig am gorsydd crynedig a mignenni pontio yng Nghymru, sef elfen o'n hadnodd mawndir cyfoethog sydd wedi derbyn llai o sylw hyd yn hyn. Mae hefyd wedi bod yn fraint inni weithio mewn partneriaeth â mentrau LIFE a Chronfa Dreftadaeth y Loteri eraill dan arweiniad sefydliadau partner, yn ogystal â nifer o brosiectau eraill sy'n cynnwys ystod amrywiol o sefydliadau, gan gynnwys y Parciau

Cenedlaethol, y Gymdeithas Frenhinol er Gwarchod Adar (RSPB), yr Ymddiriedolaeth Genedlaethol, yr Ymddiriedolaethau Natur, awdurdodau lleol a llawer mwy.

Rydym yn edrych ymlaen at fuddsoddi yn y cydberthnasau hyn a'u cryfhau trwy'r Grŵp Gweithredu Mawndir Cymru sydd wedi'i ailgynnull er mwyn cynyddu cyflymder a maint yr adfer, ar y tir yr ydym yn ei reoli yn uniongyrchol ac yn fwy eang trwy waith partneriaeth. Mae amser, wrth gwrs, yn hollbwysig gyda'r gwaith hwn gan ein bod yn gwybod erbyn hyn y bydd y newid yn yr hinsawdd yn gwneud y gwaith o adfer ein mawndiroedd a addaswyd fwyaf yn fwy heriol dros amser. Yn aml, y rhain yw'r mawndiroedd lle mae gennym yr enillion arwyddocaol mwyaf i'w cyflawni o ran adfer bioamrywiaeth a gostyngiadau mewn allyriadau nwyon tŷ gwydr, ac, felly, mae gweithredu nawr yn cynrychioli buddsoddiad gwirioneddol mewn llesiant ac adferiad gwyrdd yn y dyfodol.

Mae ein holl waith ar y prosiect hwn yn dibynnu ar gydweithrediad a phartneriaeth pobl eraill, gyda rheoli pori cynaliadwy yn elfen bwysig o'r gwaith o adfer a rheoli nifer o'n safleoedd mawndir. Mae gweithio tuag at gyflawni'r nodau hyn wedi bod yn sail i nifer o'r partneriaethau cryf yr ydym wedi'u ffurfio gyda ffermwyr a rheolwyr tir eraill dros yr hanner canrif ddiwethaf. Mae hyn yn tanlinellu pwysigrwydd sicrhau bod cymorth rheoli tir yn y dyfodol yn ymgorffori darpariaethau cryf i gefnogi'r rheolaeth gynaliadwy o fawndiroedd yn y byd ar ôl Brexit.

I gloi, hoffwn ddiolch i'r Gweinidog a Llywodraeth Cymru am ddarparu adnoddau ar gyfer y rhaglen gyffrous newydd hon a gobeithiaf yn fawr y byddwch yn parhau i weithio gyda ni i'w chyflawni gyda'r egni ac arbenigedd y mae ein hadnodd mawndir cyfoethog yn eu haeddu mor fawr.

Clare Pillman, Prif Weithredwr

Foreword by the Chief Executive of Natural Resources Wales

Peatlands encapsulate the very essence of what we are aiming to achieve in Wales through the sustainable management of natural resources. As many of us know, restoring and then maintaining peatlands in good ecological condition is the only way that we can both safeguard and sustain their rich biodiversity and ensure that the delivery of the full range of ecosystem services associated with peatlands is maximised. These services include carbon storage and capture, natural flood management, food production through grazing, and a wide range of other services. It thus makes good sense to prioritise wherever we can the restoration of peatlands and this is quickly emerging as a common theme in our work to develop and implement Area Statement work programmes. Action to restore peatlands provides a particularly tangible range of nature-based solutions to a series of pressing environmental issues and problems in Wales and this programme will contribute in a very significant way to addressing both the nature crisis and climate change emergency.

This new National Action Programme for Peatlands provides us with the means to take forward in partnership with others an exciting programme of peatland restoration and management work over the coming five years and we thank the Minister and Welsh Government for providing such a significant investment in this work. The programme will focus on addressing the key consequences and causal symptoms of peatland degradation across Wales and will also provide national coordination and support.

Natural Resources Wales' role in this programme is founded on many years of experience gained in the protection, management and restoration of peatlands. Some of our very first National Nature Reserves (NNRs) were declared to protect wonderful peatland sites such as Cors Caron in Tregaron. Other well-known peatland NNRs across the country include Cors Fochno (also in Ceredigion), Cors Erddreiniog on Anglesey and Crymlyn Bog near Swansea, and altogether some 21 of our NNRs support a significant peatland element. Our experience of managing these sites with a range of partners extends back over 50 years or more in some cases. NRW also leads nationally on the relationship with many of the owners and managers of the SSSI series; peatland habitats figure as the main or one of the primary reasons for the selection of no few than 169 SSSI in Wales, with a total hectareage of 47,440 ha of peat (over half of the total Welsh resource) included across the series. Further significant areas of peat occur within the Welsh Government Woodland Estate, and this first year of the National Peatland Action Programme includes work to begin the restoration of peatland habitat affected by past drainage and tree planting.

NRW has also built up considerable expertise in developing and delivering large-scale peatland restoration projects – these include the Anglesey & Llyn Fens LIFE project, our current New LIFE for Welsh Raised Bogs LIFE project and our plans to submit a bid for quaking bogs and transition mires in Wales, an element of our rich peatland resource which has received relatively less attention to date. It has also been our pleasure to work in partnership with other LIFE and Heritage Lottery Fund initiatives led by partner organisations, as well as many other projects involving a diverse range of organisations, including the National Parks, RSPB, the National Trust, the Wildlife Trusts, Local Authorities and many others.

We are looking forward to investing in and strengthening these relationships through the reconvened Welsh Peatland Action Group to increase the pace and scale of restoration, both on the land we manage directly and more widely through partnership. There is, of course, a time imperative associated with this work as we now know that climate change will make the restoration of our most heavily modified peatlands progressively more challenging with time. These are often the peatlands where we stand to achieve the most significant gains in terms of biodiversity recovery and reductions in greenhouse gas emissions and thus acting now represents in a very real sense an investment in future well-being and green recovery.

All of our work on this project depends on the cooperation and partnership of others, with sustainable grazing management an important element of the recovery and management of many of our peatland sites. Working towards achieving these aims has formed the basis of many of the strong partnerships we've formed with farmers and other land managers over the past half a century. This underlines the importance of ensuring that in the post Brexit world future land management support in Wales incorporates strong provisions for supporting the sustainable management of peatlands.

In closing, I would like to thank the Minister and Welsh Government for resourcing this new exciting programme and I very much hope that you will continue to work with us to deliver it with the energy and expertise which our rich peatland resource so amply deserves.

Clare Pillman, Chief Executive

Crynodeb

Mae angen gweithredu ar frys ar amgylcheddau mawndir llawn carbon ledled Cymru i wyrddroi colli cynefinoedd a chyflwr gwael. Dim ond pan fyddant mewn cyflwr ecolegol da y gall mawndiroedd ddarparu'r ystod lawn o fuddion a gwasanaethau amgylcheddol.

Mae mawndiroedd yn ymestyn dros o leiaf 4% o dirwedd Cymru ac yn cynnwys un o'n prif adnoddau naturiol. Maent yn cefnogi cyfres gyfoethog o gynefinoedd a rhywogaethau pwysig ac yn darparu ystod o wasanaethau rheoleiddio ecosystem sydd o'r pwysigrwydd mwyaf i amgylchedd a phobl Cymru. Mae tua 50% o holl fawndiroedd Cymru wedi'u dynodi ac mae mawndiroedd i'w cael ar 250 o Safleoedd o Ddiddordeb Gwyddonol Arbennig Cymru. Mae mawn yn adnodd naturiol bregus sy'n cymryd tua 1,000 o flynyddoedd i adeiladu hyd at un metr o drwch. Yng Nghymru, mae mawndiroedd i'w cael mewn lleoliadau ucheldirol ac iseldirol. Mae mawn wedi ffurfio'n eang yng Nghymru o ganlyniad i'n hinsawdd wlyb oer yn gweithredu ar y cyd â'r dirwedd donnog a'r amodau hydrolegol lleol.

Mae dynodi, cymorth amaeth-amgylcheddol ac ymyriadau rheoli tir i gyd wedi profi'n fuddiol iawn wrth hyrwyddo rheolaeth gynaliadwy ar fawndiroedd yng Nghymru. Fodd bynnag, mae'r mesurau hyn wedi bod yn dameidiog ac nid oes ganddynt gydlyniant strategol ehangach ac mae gofyniad cynyddol o hyd am raglen genedlaethol o weithgaredd ar y cyd. Mae angen hyn i gyflawni uchelgais Polisi Mawndir Llywodraeth Cymru ac i ymateb yn effeithiol i'r argyfwng newid yn yr hinsawdd a'r argyfwng natur.

Mae rhaglen weithredu gyntaf Cymru yn cynrychioli carreg filltir sylweddol ar gyfer adfer mawndir a buddsoddiad sylweddol gan Lywodraeth Cymru. Mae'n darparu'r adnoddau, y cyfeiriad a'r cydgysylltu i ddechrau'r broses o gyflawni ein huchelgais Polisi Mawndir.

Mae Polisi Mawndir tymor hir Llywodraeth Cymru ([Adroddiad Penderfyniad Gweinidogion Llywodraeth Cymru 26, Mehefin 2019](#)) yn uchelgeisiol ac yn canolbwyntio ar (i) sicrhau bod "pob mawndir â llystyfiant lled-naturiol yn destun rheolaeth/adferiad ffafriol (amcangyfrif o arwynebedd o 30,000 hectar o leiaf)", ac (ii) adfer "lleiafswm o 25% (~ c. 5,000 hectar) o'r ardaloedd o fawndir a addaswyd fwyaf".

Fel rhaglen weithredu genedlaethol gyntaf Cymru ar gyfer mawndiroedd, mae'r ddogfen hon yn amlinellu'r camau gweithredu i'w cymryd dros y pum mlynedd nesaf gan fynd i'r afael â nhw fel chwe thema flaenoriaeth:

- i) Erydiad mawndir
- ii) Draenio mawndir
- iii) Rheoli mawndiroedd cyffredinol yn gynaliadwy
- iv) Rheoli mawndiroedd yr iseldir yn gynaliadwy
- v) Adfer mawndiroedd wedi'u coedwigo
- vi) Adfer ein mawndiroedd sydd â'r allyriadau carbon uchaf yn raddol

Mae'r Themâu Gweithredu Blaenoriaeth hyn yn cynrychioli meysydd lle mae angen gweithredu ar frys i fynd i'r afael â'r Argyfwng Natur a'r Argyfwng Newid yn yr Hinsawdd. Bydd cyfres o fesurau ategol sy'n cyd-fynd â'r rhain yn sicrhau y dulliau gwell o gydlyn ymdrechion, gwerthuso effeithiolrwyddgweithredoedd, ac ymgysylltu â'r cyhoedd.

Bydd y Rhaglen yn targedu cyrff mawndir sydd angen eu hadfer fwyaf ynghyd â diogelu'r rhai sydd mewn cyflwr da ac yn gwella. Y nod yw cyflawni 600-800 hectar o waith adfer bob blwyddyn a bydd gweithgareddau'n cael eu darparu ar draws ystod o ddefnyddiau tir ar dir preifat a chyhoeddus gan Cyfoeth Naturiol Cymru a sefydliadau partner.

Mae'n bwysig cydnabod mai dim ond y man cychwyn ar gyfer cyflawni uchelgais y mawndir yw'r rhaglen 5 mlynedd gychwynnol. Bydd yn cymryd llawer mwy o flynyddoedd o waith gan y Llywodraeth, Cyfoeth Naturiol Cymru a phartneriaid os ydym am gyflawni'r uchelgais yn llawn. Bydd gweithredu nawr, ar draws y themâu blaenoriaeth a'r mesurau ategol, yn gwneud cyfraniad hanfodol at wella cyflwr mawndiroedd a mynd i'r afael â'r argyfwng natur ac argyfwng newid yn yr hinsawdd yng Nghymru.

Summary

Carbon-rich peatland environments across Wales are in need of urgent action to reverse habitat loss and poor condition. Peatlands can only deliver the full range of environmental benefits and services when in good ecological condition.

Peatlands extend over at least 4% of the Welsh landscape and comprise one of our principal natural resources. They support a rich suite of important habitats and species and deliver a range of regulating ecosystem services of primary importance to the environment and people of Wales. Approximately 50% of all Welsh peatlands are designated and peatlands occur on 250 Welsh SSSIs. Peat is a fragile natural resource that takes around 1,000 years to build up to one metre in thickness. In Wales, peatlands occur in upland and lowland settings. Peat has formed widely in Wales as a result of our cool wet climate acting in combination with the undulating landscape and local hydrological conditions.

Designation, agri-environment support and land management interventions have all proved highly beneficial in promoting the sustainable management of peatlands in Wales. However, these measures have been fragmented and lack wider strategic coordination and there remains a growing requirement for a national programme of concerted activity. This is needed to deliver against the Welsh Government Peatland Policy ambition and respond effectively to the climate change emergency and nature crisis.

Wales' first action programme represents a significant milestone for peatland restoration and a significant investment by Welsh Government. It provides the resources, direction and coordination to begin the process of delivering against our Peatland Policy ambition.

The Welsh Government's long term Peatland Policy ([Welsh Government Ministers Decision Report 26, June 2019](#)) is ambitious and focusses on (i) ensuring "all peatlands with semi-natural vegetation are subject to favourable management/restoration (a minimum estimated area of 30,000 ha)", and (ii) restoring "a minimum of 25% (~c. 5,000 ha) of the most modified areas of peatland".

As Wales's first national action programme for peatlands, this document outlines a blueprint of action to be taken over the next five years addressing as 6 priority themes:

- i) Peatland erosion
- ii) Peatland drainage
- iii) The sustainable management of blanket peatlands
- iv) The sustainable management of lowland peatlands
- v) The restoration of afforested peatlands
- vi) The gradual restoration of our highest carbon emitting peatlands

These Priority Action Themes represent areas where action is urgently needed to address both the Nature Crisis and Climate Change Emergency. A suite of supporting measures aligned to these will secure better coordination of effort, evaluation of the effectiveness of our actions, and public engagement.

The Programme will target peatland bodies most in need of restoration as well as safeguarding those in good condition and recovering. The aim is to deliver 600-800ha of restoration per year and activity will be delivered across a range of land uses on both private and public land by Natural Resources Wales and partner organisations.

It is important to acknowledge the initial 5 year Programme is just the starting point for meeting the peatland ambition. It will take many more years of work by Government, NRW and partners if we are to achieve the ambition in full. Action now, across the priority themes and supporting measures, will make a crucial contribution to improving the condition of peatlands and addressing the nature crisis and climate change emergency in Wales.

1. Introduction

As Wales's first national action programme for peatlands, this document outlines a blueprint of action to be taken over the next five years to continue to deliver the Welsh Government's Peatland Policy ambition and rise to the challenge posed by both the nature crisis and Climate Change Emergency.

The document sets out the Programme objectives and key actions in each of the priority theme areas and is supported by detailed annexes setting out the rationale for actions and wider policy context.

Peatlands provide the main environment for a rich and varied suite of habitats and species in Wales and are increasingly viewed as an important natural resource for carbon storage and capture, the regulation of greenhouse gas emissions and natural flood management.



Figure 1. Rich-fens are one of the key peatland habitats in Wales and support a diverse range of plants and insects. Cors Erddreiniog National Nature Reserve, Anglesey.

The importance of deep peat for biodiversity in Wales is reflected in the 169 Sites of Special Scientific Interest (SSSI) notified for one or more peatland biological interest features, with 47,440 ha of peat (just over 50% of the Welsh resource) represented on 250 SSSI in total. Welsh peatlands also provide a rich-record of how our landscape has evolved since the last ice age.

Wales supports the largest expanses of near-natural blanket mire in southern Britain and also much of the ecological diversity of this habitat found nationally. Lowland raised bog and fen are more localised but provide a critical nature conservation resource of wider UK and European significance.

Our peatlands make a significant contribution to Welsh and British cultural heritage, enabling the preservation of artefacts and whole landforms within and beneath peat, and

also pollen and other microfossils which are locked away as successive peat layers accumulate.

Welsh peatlands provided the foundation for some early classic investigations. For example, Cors Caron in Ceredigion was the focus of one of the earliest comprehensive English language assessments of the ecology of a raised bog in the global literature, and Welsh peatlands continue to provide the core study sites for cutting-edge science.

In response to the Peatland Policy ambition and the Programme for Government (see the Welsh Government publications [Taking Wales Forward \[2016\]](#), [Prosperity for All: the national strategy \[2017\]](#) and [The Welsh Government Annual Report \[2019\]](#)), action for peatlands needs to intensify, expand and be brought within the coordination of a coherent national action framework to reverse the decline in our environment for the benefit of future generations, make progress in each of the priority theme areas, and to build restoration capacity within Wales.

The significance of peatlands has been identified by the other UK administrations and peatland programmes are now well underway ([Scotland](#); SNH, 2015) or in development (England and Northern Ireland) and combined are a key element of the overall [UK Peatland Strategy](#) (IUCN, 2018).

Ensuring peatlands are restored to functioning ecosystems will also help the natural environment in Wales become more resilient to the effects of climate change.

2. Requirement for a Coordinated National Action Programme

2.1. Welsh Government Peatland Policy

Reflecting the [Welsh Government Decision Report of 26 June 2019](#) and the [Climate Change Adaptation Plan for Wales](#), The Minister for Environment, Energy and Rural Affairs has agreed the Welsh Government's future Peatland Policy ambition to be:

- (i) ensuring "all peatlands with semi-natural vegetation are subject to favourable management/restoration (a minimum estimated area of 30,000 ha)"; and,
- (ii) restoring "a minimum of 25% (~c. 5,000 ha) of the most modified areas of peatland.

The Decision Report also committed Welsh Government to produce and develop the following.

- A map and baseline assessment of peatlands in Wales. Delivered through the Welsh Government's Soil Policy Evidence Programme, this includes an investment of £205,000 in the following:
 - A new free to use peatland map for Wales with information on depth and extent of peatland bodies. It is based on the long standing Soil Survey of England & Wales peat definition and will include the transition into organo-mineral soils where actual depth measurements are available. The expected delivery date for the map is April 2021.
 - A baseline condition, depth, bulk density & carbon measurement survey for priority peatland bodies across Wales and peatland map development (due April 2021).
- A National Peatland Action Programme with costed proposals for the provision of a 5 year restoration programme.

These actions are well under way and it is important to acknowledge the initial 5 year Programme is just the starting point when meeting this ambition. It will take considerable commitment over many years by Government, NRW and partners to achieve the ambition in full.

Action now through this Action Programme will make a crucial contribution to improving the condition of peatlands whilst addressing the nature crisis and climate change emergency in Wales. This has clearly been identified as a priority through the [Welsh Government Annual Report for 2019](#) and the direct funding provided for this Programme by the Welsh Government.

The Programme will focus on areas most in need of restoration or management activity across the whole of Wales as well as safeguarding areas in good and recovering condition. The aim will be to progressively restore an estimated 600-800 ha per annum. Partnership working is critical to the restoration effort and the Programme will coordinate restoration

and management activity with partners through the reconstituted Welsh Peatlands Action Group.

2.2. Policy Framework

This National Peatland Action Programme is a direct response to the current condition of the peatland resource and the need for a delivery programme and coordination framework to support a broad platform of current policy under the overall umbrella of the nature crisis and climate change emergency.

[Welsh Government's Prosperity for All: the national strategy \(2017\)](#) set out the steps the Welsh Government would take to achieve our well-being objectives. There are a number of priority areas, which cut across multiple well-being objectives and require a whole-government approach. During the development of the 2020-21 Budget, biodiversity was identified as an additional priority which is partially addressed through this Programme.

[The Welsh Government Annual Report for 2019](#) recognises "There is an urgent need to address the threat posed by climate change and biodiversity loss. Wales has some of the greatest environmental assets of any small country, but our basic ecosystem is in decline. In 2019 Wales declared a climate change emergency, placing ourselves on the leading edge of a wider social movement to combat the crisis and restore our natural environment."

The significant restoration effort already expended by a wide range of partners needs to be extended and placed on a more nationally coordinated and strategic footing in order to ensure that national priorities are addressed using the most appropriate mechanisms and also to gain traction in the more 'difficult to do' restoration contexts. Neither ambition can be addressed without this strategic Programme, or its integration with the objectives of the terrestrial [Area Statements](#) across Wales.

The current policy framework suggests the action programme should focus on four key objectives.

- Improving peatland ecosystem resilience.
- Contributing to the climate change emergency response in terms of both mitigation and adaptation, recognising the especially strong synergy between nature recovery and climate regulation which peatlands represent.
- Applying the exceptional role played by the restoration and sustainable management of peatlands in providing nature-based solutions to a range of other environmental issues in Wales (nature based solutions are defined in the [Natural Resources Policy](#) (Welsh Government, 2017) as "Solutions that are inspired or supported by nature, which are cost-effective and simultaneously provide environmental, social and economic benefits and help build resilience").
- Increased public and sectoral understanding of and support for the importance of restoring Welsh peatlands and ensuring their long-term sustainable management.

The relationship of each of these main headings to their underlying (and often overlapping) policy drivers is summarised in Annex A.

2.3. Pressures and Condition

The current condition of the Welsh peatland resource reflects the long-legacy of human modification and management and also well over half a century of site safeguarding and increasingly positive management supported by statutory designation (notably SSSI and SAC) and a succession of environmental land management schemes and restoration initiatives. Current pressures upon the semi-natural peatland habitat resource were assessed most recently for the 2019 [Article 17 reporting round](#) (NRW, 2018a) and the most prevalent include:

- atmospheric nutrient deposition;
- under-grazing / inappropriate grazing management, often coupled with management neglect;
- diffuse and point source pollution to surface and groundwaters;
- drainage;
- problematic native species; and,
- non-native species.

The impact of these pressures is influenced by a series of common underlying factors summarised in Table 1.

Table 1 Underlying factors and their impact on condition.

Factor	Impacts
Historic and ongoing habitat loss / modification, primarily due to agricultural intensification, 20 th century afforestation, and land reclamation.	Habitat fragmentation, reduced connectivity, smaller habitat patch sizes, all leading to lowered resilience.
Historic management, particularly past over-grazing and burning.	Peat erosion (Figure 2) and gullying and the widespread replacement of ericoid-bog moss-graminoid vegetation with surfaces strongly dominated by grasses (<i>Molinia caerulea</i> , <i>Nardus stricta</i>), rushes (<i>Juncus effusus</i> and <i>J. squarrosus</i>) or cotton-grass (<i>Eriophorum vaginatum</i>).
Large-scale hydrological modification, notably floodplain modification, river canalisation, intensive drainage networks.	Loss of peat through wastage, changes in peat body morphology, fundamentally unfavourable hydrological regimes across the original wetland landscape (Figure 3) which make it hard to re-engineer natural wetland edge ecotones.
Climate change	Changes in rainfall amount/distribution and increases in temperature will affect both habitat quality and the potential restorability of heavily modified sites (Bell, 2020). Major changes in the extent and distribution of extant habitat are not expected in the next 50 years, however, and restoration will greatly enhance the resilience of peatlands to this pressure.



Figure 2. Significant peat erosion with hags and wide gulleys; Cribin Fawr, Gwynedd.

Despite best efforts to improve peatland condition through the use of mechanisms such as SSSI management agreements, NNR management, LIFE programmes, Glastir and its predecessor schemes, and a range of other restoration initiatives it is estimated that no more than 10% by area of the near-natural and modified peatland resource is likely to be in favourable condition. This assessment is based on evidence assessed for the 2019 Article 17 reporting round which covered the seven core peatland habitats found in Wales which are listed under [Annex 1 of the EC Habitats Directive](#), amounting to a sum area of 56,248 ha; NRW, 2018a). The situation in Wales is broadly consistent with the rest of the UK, where an estimated 80% of the peatland resource is estimated to be in a “damaged and deteriorating state” (IUCN, 2018).



Figure 3. Drained blanket bog on the Migneint (Gwynedd).

In many cases it is evident that an initial capital investment in restoration work would bring peatland sites and features to a recovering condition (Figure 4), with ongoing recovery then supported by comparatively low input sustainable management regimes. Delivering this former component is a key element of the programme, with the co-production input to the design of the future Sustainable Land Management scheme and PES based approaches (including the [Peatland Code](#) and its future iterations) also potentially representing critical delivery elements, particularly with respect to achieving long-term sustainable management.



Figure 4. Cutting and harvesting of over-grown rich-fen vegetation to enable longer-term grazing as part of the sustainable management of this peatland site for both biodiversity and carbon benefits.

3. Peatlands of Wales

Peat soils are defined by the Soil Survey of England & Wales (1980) as:

- more than 40 cm of organic (O horizon) material within the upper 80cm, excluding fresh litter (L) and living moss; **or**
- more than 30 cm of organic (O horizon) material resting directly on the bedrock (R or Cr) or extremely stony material; **and**,
- no overlying non-humose material mineral horizon that has a colour value of 4 or more and extends below 30cm depth.

This definition is employed in other contexts such as the Agricultural Land Classification of England & Wales, and is acknowledged by the [Woodland Carbon Code](#). In addition 40 cm is the deep peat threshold employed for woodland creation opportunity mapping.

3.1. Characterising Peat Soils

Peat soils are predominantly organic soils derived from partially decomposed plant remains that accumulated under waterlogged conditions. Peats are subdivided into 2 main '[Soil groups](#)' in taxonomic terms:

- **Raw peat soils** are organic soils that have remained wet to within 20cm of the surface, since their formation;
- **Earthy peat soils** are organic soils, normally drained, with a well aerated and structured, relatively firm surface horizon containing few or no recognizable plant remains.

Broadly speaking, raw peat soils best reflect semi-natural peatlands and earthy peat soils reflect heavily drained lowland peats. Welsh peats occupy approximately 4% of the land area. The raw peat soils (semi natural peatlands, primarily in the uplands – see Figure 5) account for 97% of all peats in Wales, but many have been subject to some form of drainage over the years.

Small areas of buried peat of the [Wensum](#) Soil Series can also be found in central west Wales mostly occupying low-lying or depressional sites. These soils may have loamy or clayey material over a significant depth of peat and will be considered as part of the new peat map and if necessary by the wider Programme.

Transitioning organo-mineral soils integral to the hydrological functioning of peat bodies will also fall within the remit of the national restoration programme, as will wetland soils with a significant marl or tufa component and supporting Annex 1 and related fen habitats.

Soils of Wales

Cranfield University 2019

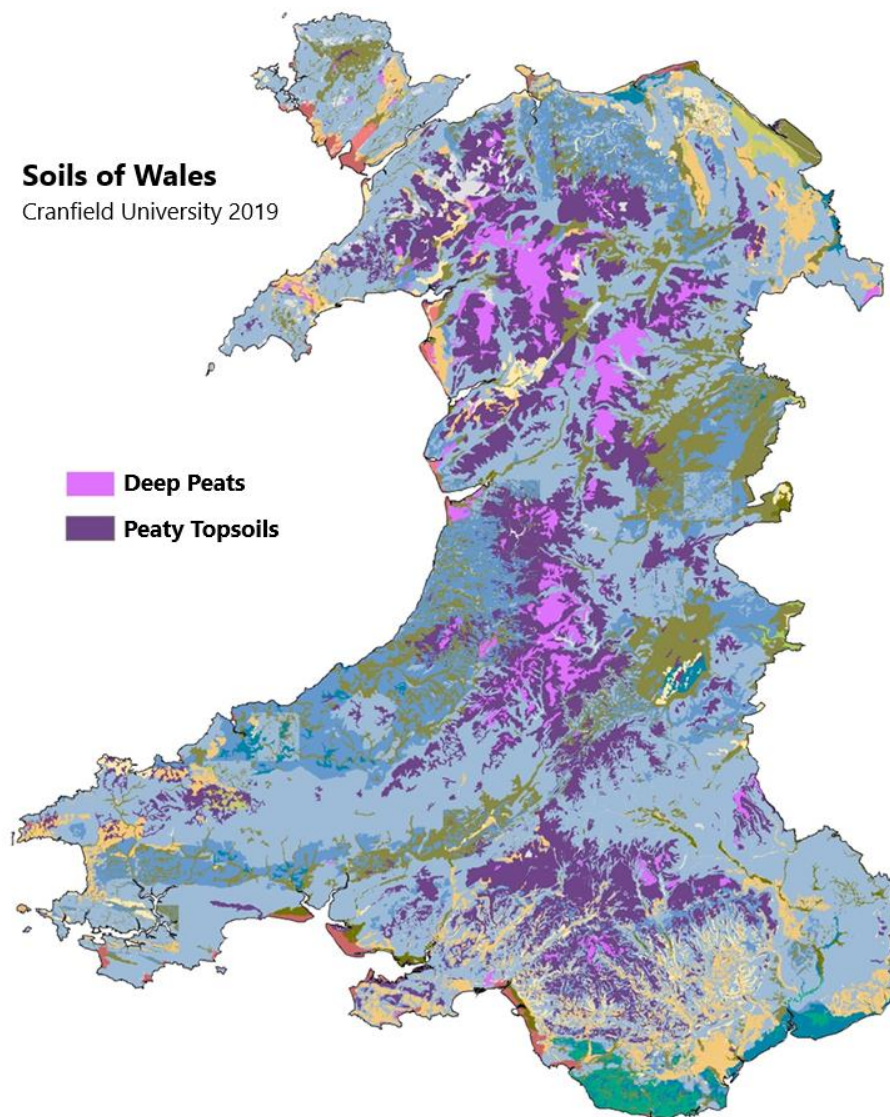


Figure 5. The Soils of Wales Map (Cranfield University 2019) illustrating the distribution of both deep peat and peaty topsoils (1;250,000th scale, using the Soil Survey of England and Wales). The deep peats in this figure include raw peat soils and earthy peat soils.

4. National Peatland Action Programme – Priority Themes & Actions

The action programme is divided into priority action themes to focus peatland restoration through a programme of practical on the ground action, and a series of cross-cutting actions which are needed to develop and implement an effective national programme. The priority themes reflect key areas where action is needed to simultaneously address the nature crisis and climate change emergency.

The key project themes are outlined below in Table 2. Further detail may be found in Annex B. Partnership working and delivery is key to the successful implementation of the Programme. Activity will be across private and public land. The requirements of key threatened and other priority peatland species will be considered across the Priority Action Themes.

Table 2. Themes and actions of the National Peatlands Action Programme.

Priority Action Theme	National Programme Actions
1. Peat Erosion	<ul style="list-style-type: none"> i. Assessment of the scale of peat erosion & prioritise areas for restoration. ii. Restore sites affected by gullyng and peat erosion.
2. Drainage / hydrological impacts	<ul style="list-style-type: none"> i. Quantify extent of ongoing active drainage & prioritise areas for restoration. ii. Programme of hydrological restoration on priority sites. iii. Identify potential applications to the Peatland Code.
3. Achieving the sustainable management of blanket peatlands	<ul style="list-style-type: none"> i. Identify priority sites for tackling <i>Molinia</i> and ericoid dominance. ii. Programme of restoration on priority sites, including sites supporting priority species. iii. Support work to broaden the scope of the Peatland Code and its financial viability. iv. Support co-design of Sustainable Land Management scheme. v. Progress action & coordination on fire-risk mitigation.
4. Achieving the sustainable management of lowland peatlands	<ul style="list-style-type: none"> i. Programme of restoration on priority sites. ii. Focus effort on sites supporting threatened habitats and priority species. iii. Secure re-introduction or modification of grazing where required. iv. Research economic and practical barriers to achieving sustainable management. v. Complete Lowland Peatland Survey of Wales.

5. Afforested peatlands	<ul style="list-style-type: none"> i. Undertake field assessment of priority sites for restoration on the Welsh Government estate, with a focus on low yield class areas. ii. Review the 2012 afforested Peat Toolkit assessment protocol. iii. Implement programme of restoration on priority sites across the Welsh Government estate. iv. Promote new restoration techniques for afforested areas.
6. Ultramodified peatlands	<ul style="list-style-type: none"> i. Assess the scale, suitability and potential sites for restoration. ii. Establish collaborative dialogue with private land managers. iii. Establish field-scale trials (feasibility & viability) for wet agriculture and paludiculture techniques.

Cross-cutting theme	National Programme Actions
National coordination	<ul style="list-style-type: none"> i. Reconvene the Welsh Peatland Action Group. ii. Integrate peatlands themes within other key projects and initiatives. iii. Stimulate development of new partnerships and delivery groups and support existing initiatives. iv. Utilise NRW grants mechanisms to grant aid delivery by partners. v. Implement guidance for targeting effort. vi. Co-design actions and targets with area statement teams and process. vii. Develop / support practitioner training programmes. viii. Produce a specification library to promote restoration best practice. ix. Contribute to development of the Peatland Code, PES and green market-place mechanisms. x. Use section 16 agreements to support peatland restoration.
National monitoring and activity capture and evidence	<ul style="list-style-type: none"> i. Develop and implement national GIS based recording system for peatland mapping & restoration. ii. Utilise existing guidance and methodologies in developing a national monitoring scheme to assess the effectiveness of project actions and contribute to statutory reporting schemes. iii. Work with Government, research institutions and Welsh Peatlands Fellowship post in applying latest evidence and working collaboratively to address key evidence gaps.
Public awareness	<ul style="list-style-type: none"> i. Develop engagement programme moulded to all sectors in Wales.

	ii. Develop NPAP website.
--	---------------------------

5. Programme Staffing Structure and Governance

A core project delivery team (4-6 staff) will facilitate the delivery, coordination, promotion and monitoring of actions for Wales (Table 3).

Table 3 Staffing structure for the National Peatland Action Programme.

Post	Programme Years
NPAP Project Manager	1-5
Project Officer x2	1-5
Procurement and Grants officer	1-5
Data, information and GIS officer	2-5
Communications Officer	2-5

The Welsh Government will maintain overall responsibility for the programme and will determine the annual spend and any programme amendments.

Within NRW the project will report to the Biodiversity & Ecosystem Resilience Group which in turn reports up to NRW's Natural Resources Management (NRM) Board. Reporting to NRW's Capital Projects Oversight Board will also be undertaken at least for year 1. An annual progress report will be provided.

Project delivery will be supported by a range of NRW and external parties. The WG/NRW Soils Evidence & Policy Group will have a cross cutting role. A revamped Welsh Peatland Action Group will support information exchange, joint recognition of priorities and strong partnership working.

6. Costing the Programme

The Ministerial Decision Report of 26 June 2019 commissioned NRW to produce a costed 5 year national action programme to begin the process of addressing the ambition. Achieving these targets will require concerted effort by a range of partners and using a spectrum of measures, with the envisaged core funded Programme providing a central hub of activity around which other mechanisms and players will operate in a coordinated manner.

The core-funded National Programme will help give funders and funding mechanisms confidence that investment is contributing to genuine national priorities within the context of a strategic coordinated programme. The initial five year Programme represents a significant investment by Welsh Government, with a focus on those peatlands most in need of restoration and safeguarding those in good and recovering condition.

An annualised cost breakdown for the five year programme is provided in Table 4, based on an annual capital investment of £1,000,000 and supporting revenue expenditure.

Table 4 Outlines the year 1 budget breakdown and annual anticipated budget breakdown 2021-2025. The restoration activity heading includes a grant-aid component to partners. Evidence budget for years 2-5 will vary in-year depending on priorities and needs identified.

Activity area	Year 1 £k	Year 2 £k TBC	Year 3 £k TBC	Year 4 £k TBC	Year 5 £k TBC
Staffing costs	164	276	288	297	300
Evidence & Mapping (Year 1)	225	TBC	TBC	TBC	TBC
Total Revenue	389	276	288	297	300
Restoration activity (Priority Action Themes 1 – 6)	1,000	1,000	1,000	1,000	1,000
N2K additional allowance (Year 1)	500				
Total Capital	1,500	1,000	1,000	1,000	1,000
Total NPAP Cost	1,889	1,276	1,288	1,297	1,300

7. Programme Progress & Development

7.1. End of Programme Review

Within 18 months of the end of the 5 year Programme, NRW will undertake a review against the Priority Themes and report on the delivery and outcomes achieved with partners. It will consider the experiences, learning and evidence gathered throughout its delivery and make recommendations to Welsh Government as to whether a second National Peatland Action Programme should be commissioned and if so in what form, scale and rate. It is expected, this will be delivered to Welsh Government by the end of period 3 of the 2024/25 financial year.

7.2. Monitoring, reporting and evidence

Monitoring is needed to evaluate progress towards achieving the project outcomes and to assess and where necessary modify the range of techniques and delivery mechanisms employed. Monitoring data are also required to feed into a range of wider reporting obligations which satisfy compliance requirements and also policy monitoring and development, including State of Natural Resources Reporting, Natural Capital Accounting, Article 17 and protected sites reporting and, in due course, the UK's National Atmospheric Emissions Inventory. Welsh data on GHG fluxes collected by partner organisations are important for underpinning the ongoing development of the Peatland Code and other initiatives around payment for ecosystem services. The programme will work with partners to help address key evidence gaps relevant to the sustainable management of peatlands in Wales.

Current monitoring activity is undertaken by a range of organisations and it is difficult to determine an accurate overall picture of the condition of Welsh peatlands. This programme will help assess base-line condition, depth, bulk density and carbon content for priority peatland bodies across Wales and we will utilise or adapt existing and emerging

monitoring activity and guidance to develop a National Peatland Monitoring Scheme to capture information on restoration activity and the effectiveness of programme actions.

8. Building Wider Understanding of and Support for Peatland Restoration

Building public and cross-sectoral support for peatland restoration in Wales is essential and reflects the SMNR principles of promoting collaboration and cooperation and also public participation. Communicating the importance of peatlands is a key strand of the [UK Peatland Strategy](#) (IUCN, 2018) which defines the core outcome for 2018-2040 as “Peatlands are recognised for the benefits they provide and society is aware of both the benefits of healthy peatlands and impact of degradation”.

The programme will seek to promote public and cross-sectoral understanding of the benefits peatlands provide. Key themes and principles of the public engagement programme can be summarised as:

- development of a Communications Tool Kit to include core aims, vision, messages and audiences;
- development of a core suite of resources to explain the importance of peatlands;
- ensuring information is based on the best available evidence and professionally communicated;
- ensuring information is engaging and appropriate and relevant to the needs of the audience;
- branding and format design promoting recognition of the National Action Programme;
- engaging and encouraging in supporting public participation; and,
- building investor support for peatland restoration.

There will be an important role for the partners of the reconstituted Welsh Peatlands Action Group in supporting and building public awareness of Welsh peatlands and the wider work of the National Peatland Action Programme.

9. Annual Programme Reporting

Restoration delivery works will usually take place between the months of September and March of each financial year to avoid impacts on breeding birds. Preparation for works, identification of priorities and commissioning of evidence will be focussed between March and September of each year and outside the main period of groundworks activity.

The National Peatland Action Programme officers will be responsible for reporting on Programme delivery and communication activity.

During the 4th. period of each financial year, NRW will produce a delivery and communications report detailing the following:

- the actions delivered through the Programme;
- benefits, whether actual or potential, of delivery actions;
- summary of key deliverables, forward work plan, and functioning of the Welsh Peatland Action Group;
- summary of the communications activity, engagement and effectiveness; and,
- outline of the restoration and communication work plan for the year ahead.

10. Acknowledgements

A wide range of NRW and partner colleagues have made invaluable contributions to the development of this document, particularly members of NRW's Peat Group, the WG/NRW Soil Evidence and Policy Group and members of the Welsh Peatlands SMS Steering Group. Dr Jonathan Walker of Swansea University kindly contributed substantial information on *Molinia* dominated peatlands and ultra-modified peatlands to an earlier draft.



11. References

Bell, G. (2020). *Capability, Suitability and Climate Program: Applying ALC Data for Modelling Agricultural Flood Risk, Irrigation Suitability, and Suitability for Ecological Restoration*. Report to Welsh Government Land, Nature and Forestry Division by Environment Systems Limited, Aberystwyth.

Forestry Commission (2017). *The UK Forestry Standard The governments' approach to sustainable forestry*. Forestry Commission Edinburgh. 225 pp.
<https://www.gov.uk/government/publications/the-uk-forestry-standard>

IUCN (2018). *UK Peatland Strategy, 2018-2040*. IUCN UK Peatland Programme, Edinburgh. 47 pp. <https://www.iucn-uk-peatlandprogramme.org/uk-strategy>

Lawton, J. (ed., 2010). *Making Space for Nature: A review of England's Wildlife Sites and Ecological Network*. Report to the Secretary of State, the Department for Environment, Food and Rural Affairs on 16 September 2010. 107 pp.
<https://webarchive.nationalarchives.gov.uk/20130402170324/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf>

Natural Resources Wales (2018a). *Article 17 Reporting Evidence Packs for the Annex 1 habitats H7110* (Active Raised Bog), H7120 (Degraded Raised Bog), H7130 (Blanket Bog), H7140 (Transition Mire & Quaking Bog), H7210 (Calcareous Fen) and H7230 (Alkaline Fen)*. Natural Resources Wales, Bangor.

Natural Resources Wales (2018b). *Vital nature: Making the connections between biodiversity and the people and places of Wales - NRW's strategic steer for biodiversity to 2022*. Natural Resources Wales, Cardiff. 37 pp. <https://naturalresources.wales/about-us/strategies-and-plans/vital-nature-making-the-connections-between-biodiversity-and-the-people-and-places-of-wales/?lang=en>

SNH (2015). *Scotland's National Peatland Plan: Working for our future*. Scottish Natural Heritage, Edinburgh, 52 pp. <https://www.nature.scot/scotlands-national-peatland-plan-working-our-future>

Soil Survey of England and Wales (1980). *Soil Survey Technical Monograph No. 14: Soil Classification for England and Wales [Higher Categories]*. B.W.Avery. 1980.

Welsh Government (2016). *Taking Wales Forward 2016-2021*. <https://gov.wales/taking-wales-forward>

Welsh Government (2017). *Well-being statement 2017: Prosperity for All: the national strategy*. <https://gov.wales/prosperity-all-national-strategy-well-being-statement-2017>

Welsh Government (2017). *Natural Resources Policy*. Cardiff. 36 pp.
<https://gov.wales/natural-resources-policy>

Welsh Government (2018). *Woodlands for Wales: The Welsh Government's Strategy for Woodlands and Trees*. 56 pp. https://gov.wales/sites/default/files/publications/2018-06/woodlands-for-wales-strategy_0.pdf

Welsh Government (2019). Welsh Government Ministers Decision Report 26 June 2019. <https://gov.wales/decision-reports-2019>

Welsh Government (2019). Welsh Government Annual Report 2019: A More Prosperous, Equal and Greener Wales. <https://gov.wales/welsh-government-annual-report-2019>

Welsh Government (2019). *Prosperity for All: A Climate Conscious Wales: A climate change adaptation plan for Wales*. Cardiff. <https://gov.wales/prosperity-all-climate-conscious-wales>

Welsh Government (2019). *Prosperity for All: A Low Carbon Wales*. Cardiff. 205 pp. https://gov.wales/sites/default/files/publications/2019-06/low-carbon-delivery-plan_1.pdf

Annex A. Relationship between National Peatland Action Programme objectives and key policies and guidance.

Key NPAP objectives	Key policy drivers/guidance
Building peatland ecosystem resilience	<p><u>Section 6 duty of the Environment (Wales) Act 2016</u> Requires “public authorities to seek to maintain and enhance [and not reduce] biodiversity and promote the resilience of ecosystems and the benefits they provide now and for future generations”.</p> <p><u>Section 7 of the Environment (Wales) Act 2016</u> States that Welsh Ministers must publish a list of the living organisms and types of habitat (the Section 7 lists), which in their opinion, are of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. Welsh Ministers must then take all reasonable steps to maintain and enhance these species and habitats and encourage others to take such steps. All Welsh peatland habitats were listed on the earlier section 42 list and would be candidates for inclusion on the new section 7 list.</p> <p><u>Well-being of Future Generations (Wales) Act 2015</u> Second goal is to have ‘A resilient Wales’ that supports “social, economic and ecological resilience through maintenance and enhancement of a biodiverse natural environment and healthy functioning ecosystems”.</p> <p><u>Nature Recovery Action Plan (NRAP; Welsh Government, 2015) – see also <u>Vital Nature</u> (NRW, 2018b).</u> Objective delivers against 3 of the NRAP’s 6 objectives,</p> <p>(2) safeguard habitats and species and improve their management, (3) increase resilience by restoring degraded habitats and through habitat recreation, (4) tackling key pressures on ecosystems.</p> <p>The NRAP cites “Welsh Government’s Peatland Restoration Project - Wales has a commitment to bring all peatland habitat in Wales into sustainable management by 2020”.</p> <p>Responding to the nature crisis NRWs work in responding to the nature crisis recognises the synergies between climate and nature recovery and identifies peatlands as one of the three key habitats which optimise links between biodiversity and climate Targeted habitat restoration and sustainable management represent key responses to the Nature crisis. NRW’s Strategic Priorities for 2020-2021 (NRW Business Plan 2020-2021) includes a specific peatland action to “Develop and initiate a 4-5 year programme to bring Welsh peatlands under</p>

	<p>sustainable management in order to recover their declining biodiversity and deliver the full range of ecosystem services associated with peatlands in good condition.”.</p>
Climate change adaptation and decarbonisation	<p><u>Climate Change Adaptation Plan for Wales (Welsh Government, 2019).</u> Recognises that “more action is needed to restore peatland habitats” (p.28) and “Identifies the core role of peatland restoration in reducing greenhouse gas emissions and Includes a specific action (AN1) for “Natural Resources Wales to produce a costed national action plan for a five year period to restore our peatlands”, with detail in the technical annex including the policy ambition to “bring under sustainable management all areas of peat supporting semi-natural habitat” with the dual target of:</p> <ul style="list-style-type: none"> (i) ensure all peatlands with semi-natural vegetation are subject to favourable management/restoration (a minimum estimated area of 30,000 ha), and (ii) restore a minimum of 25% (~c. 5,000 ha) of the most modified areas of peatland to functional peatland ecosystems. <p>The importance of achieving reductions in GHG emissions from UK peatlands is highlighted in the UK Committee on Climate Change reports, with a specific policy recommendation for their restoration along with other measures such as preventing burning (2018, 2020).</p> <p><u>Declaration of a Climate Emergency by Welsh Government (29th April 2019) and NRW's response (2019)</u> The declaration statement recognises the connection between the drivers of climate change and action to recover nature. NRW's response to the Climate Emergency includes a specific peatland action to “Develop and initiate a 4-5 year programme to bring Welsh peatlands under sustainable management in order to recover their declining biodiversity and deliver the full range of ecosystem services associated with peatlands in good condition.”.</p> <p><u>A Low Carbon Wales (Welsh Government, 2019)</u> Calls for reductions in carbon losses from peatlands soils by implementing, <i>inter alia</i>, Policy 66 # <i>Peatlands for the Future</i> which identifies current Welsh Government policy is use all available mechanisms to bring semi-natural peatlands into sustainable management by 2020.</p>
Development of nature-based solutions	<p><u>Natural Resources Policy (Welsh Government, 2017)</u> Delivering nature-based solutions is one of the three national priorities of the NRP which defines the concept as solutions “inspired or supported by nature, which are cost-effective and simultaneously provide environmental, social and economic benefits and help build resilience”. This embraces both of the other key programme objectives but also extends to the broader range of</p>

	ecosystems services which peatlands in good condition deliver, including water quality and quantity benefits. The soon to be published WG National FCERM Strategy promotes the use of natural measures and catchment approaches to managing flood risk and contributing to climate resilience.
Increase support for peatland restoration and their sustainable management	<p><u>Environment (Wales) Act 2016</u> Objective directly addresses the SMNR principles of collaboration and engagement and public participation</p> <p><u>Nature Recovery Action Plan (Welsh Government, 2015) – see also NRW's Vital Nature (NRW, 2018b).</u> Objective delivers against NRAP objective #1 to engage and support participation and understanding (the programme also delivers against the remaining NRAP objectives 5 [improve evidence and understanding] and 6 [establishing governance and support for delivery] – both are covered under cross-cutting action themes.</p>
Other policies relevant to peatlands / cross cutting policies relevant to >1 objective.	<p><u>Making Space for Nature (Lawton, ed., 2010).</u> Recommendation 6: Government should produce a strategy to ensure that we protect and secure multiple benefits from our carbon-rich soils and peatlands, and maximise their contribution to ecological networks. (despite the focus on England many of the principles and recommendations have been adopted more widely across the UK.</p> <p><u>UK Peatland Strategy (UKPS), 2018-2040 (IUCN, 2018).</u> Calls upon the four UK Governments to develop and coordinate the delivery of country-level action plans and programmes to deliver the objectives and outcomes of the UKPS.</p> <p><u>IUCN Resolution 43 – Securing the future for global peatlands (WCC-2016-Res-043-EN).</u> Calls on National Committees to cooperate with the Secretariat, Commissions and Members in developing or contributing to country-focused programmes to protect, restore and sustainably manage peatlands taking cognisance of the strategic actions of the FAO 'guidance for climate change mitigation by conservation, rehabilitation and sustainable use of peatlands' and the ongoing work of the Ramsar Convention particularly under Ramsar Resolution XII.11 on peatlands, climate change and wise use (2015).</p> <p><u>UK Forestry Standard (Forestry Commission, 2017).</u> Includes a general “presumption against the conversion [to forestry] of some priority habitats, such as deep peat or active raised bogs” for “reasons of climate change in addition to biodiversity” and “avoid establishing new forests on soils with peat exceeding 50 cm in depth and on sites that would compromise the hydrology of adjacent bog or wetland habitats”. In determining the case for woodland removal, the Standard refers to Country-level policies</p>

	<p>and advocates taking into consideration feasibility of restoration and implications for climate change and GHG emissions. The Standard also recommends that the balance of benefits for carbon and other ecosystem services should be considered before making the decision to restock on deep peat soils.</p> <p><u>Woodlands for Wales</u> (Welsh Government, 2018). Identifies that restoration of deep peat habitats can be pursued where there is a clear ecosystem service benefit and where restoration is likely to be successful and is covered by a plan (see section 5.6).</p>
--	---

Annex B Outline of key project actions during year 1 and the scope of actions for years 2-5 (separate document).

See separate document entitled National Peatlands Action Programme Annex B.