Rhaglen Weithredu Genedlaethol ar Fawndiroedd: Adroddiad Blwyddyn 3

National Peatland Action Programme: Year 3 Report

2022/23

#AdferMawndirCymru
#NaturUwchCarbonIs

#HighNatureLowCarbon
#WalesPeatlandAction

Natural Resources Wales, July 2023

(English language version)

Contents

Third Year Highlights: 2022/23

National Peatland Action Programme 2022/23 Highlights

~630 ha of restoration activity*

>50% of restoration activity spend delivered in collaboration with partners across Wales

12 partners funded via 2 different grant mechanisms

Launched...
- Peat Data Portal
- Competitive Development Grant

Awarded 3 grant rounds to deliver up to March 2025

Restoration at Figyn Blaen Brefi, SSSI, WGWE

NPAP peatland content gained 250,000 impressions and 20,000 engagements on social media

Spend summary

Land Management agreement 23.1%

Surveys and other 4.5%

Restoration activity procurement 23.8%

Grant 33.2%

Staff 15.4%
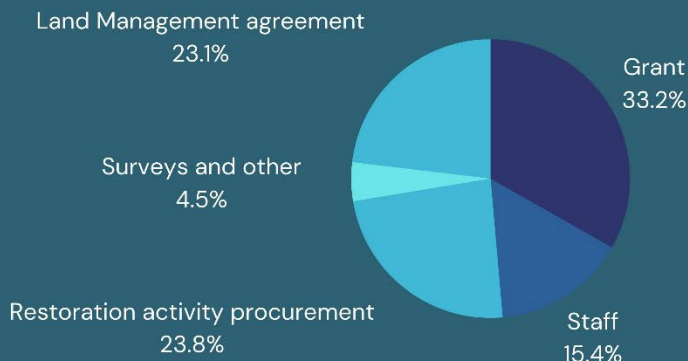
NPAP won the #TimCyfoeth Carbon Footprint Award 2022

* Conservative hectarage figure provided. Reported figures are over 3,000ha, but reporting is subject to review to bring it in-line with a standard NPAP recording methodology. The reported figure of 3,000ha includes substantial hectarages where the main activity has been sitka seed-in removal.

Executive Summary

This has been another exciting year for peatland restoration in Wales. Tasked by Welsh Government (WG), the National Peatland Action Programme (NPAP) continued with its work in 2022/23 to restore peatlands across Wales to address the Nature and Climate emergencies. Then in October 2022, Welsh Government Minister for Climate Change, Julie James MS, announced her aim to triple peatland restoration activity by 2030/31. This has led to an extensive period of planning to ensure we can upscale our peatland restoration effort. As we look to the future, this Annual Report looks back over the peatland restoration and strategic actions in 2022/23.

NPAP recognises the intrinsic link between carbon storage, the regulation of greenhouse gas emissions, and the biodiversity benefits provided by peatlands and aims to increase their ecosystem resilience, through an ambitious programme of restoration and sustainable management. In doing so, NPAP contributes tangible outcomes to the aims of Natural Resources Wales (NRW) to address both the Climate and Nature emergencies. Full details of how NPAP contributes to priority WG policy frameworks, such as climate adaptation plans in line with key legislation such as the Environment Wales Act, are described in detail within the published National Peatland Action Programme 2020-2025 document.

In 2022/23 NPAP built on the foundations of the first two successful years to deliver an estimated minimum of 630ha of restoration activity across five of the six priority action theme areas.

Around 56% of the spend on restoration activity was delivered in collaboration with partners across Wales, funded by mechanisms including: Procurement, Grants, and Land Management Agreements. New in this third year was the launch of the Development Grant, of which two rounds were offered in 2022/23 with the aim of supporting individuals and organisations to take the first steps towards peatland restoration.

In October 2022, there was also an opportunity to draw wider attention to the collective Wales Peatland Action success when IUCN UK's Peatland Conference was held at Aberystwyth. With shared hosting by NRW and the LIFE Welsh Raised Bogs project, NPAP supported Welsh Government in providing the Country Overview, as well as in presenting the work of NPAP, holding a range of workshops, and hosting two site visits, one to Tywi Forest, on the Welsh Government Woodland Estate (WGWE) to view afforested bog and peat erosion restoration, and the other on an upland site at Lake Vyrnwy led by one of NPAP's funded partners, RSPB Cymru.

Across the devolved administrations, NPAP is representing Wales strategically in the Four Nations Delivery Group to address common challenges through collaboration, with initial priority focusing on reporting standards and methodologies.

In Wales, NPAP consolidated some key stakeholder groups, primarily the Wales Peatland Action Strategic Delivery Partners Group where joined-up approaches were discussed in a meeting and a follow-up site visit hosted by one of the partners at Lake Vyrnwy. Planning went ahead with two other strategic groups to escalate activities for 2023/24, namely the Wales Peatland Action Site Delivery - Practitioners Network and the Wales Peatland Action Monitoring and Research Forum.

Regional stakeholder engagement continues through the Area Statement leads to identify options for integrating NPAP with Area Statement activity.

Capacity building remains a focus and NPAP continued to build positive working relationships with contractors. This proactive approach has resulted in early resolution of contractual issues identified by contractors and the NPAP team.

Internal to NRW, NPAP has continued to build and maintain relationships that lead to direct delivery through internal partners. NPAP's restoration activity on the WGWE continued in 2022/23 with action on over 90 hectares. Building on the two previous years of internal relationships has advanced mutual understanding. NPAP, in conjunction with forest policy teams, is continuing to identify peatland restoration opportunities on the WGWE, in order to plan ahead and inform the Forest Resource Plans.

Further internal collaboration on peatland restoration methods and information sharing was strengthened with the quarterly meetings of the NRW Peat Delivery Group and the Procurement, Reporting, and Communications sub-groups.

NPAP has established significant proactive public communication through events, webinars, web content, videos, media engagement, podcasts, and social media. The data gathered reflects positive and increased interest in information about the benefits of, and opportunities for, peatland restoration in Wales. External creative partnerships also galvanised interest in an artist-led project which engaged local school children and national media alike and continues into 2023/24.

Open access information for the public was boosted on 4th of April 2022, when the new peat data portal was launched on NRW's website. The peat portal hosts all of the openly available peat data in a publicly accessible format for the first time. The portal includes various peatland related spatial data layers, including, the recently completed new peat distribution and carbon attribute maps funded by WG. Work is continuing to develop standardised peatland restoration activity reporting formats, across NPAP and partners, to enable national reporting.

1. Introduction

This report describes work undertaken during the third year (2022/23) of the National Peatland Action Programme (NPAP).

This is a five-year Programme funded by Welsh Government (WG) and led by Natural Resources Wales (NRW). Programme details can be viewed on a dedicated section of NRW's website (Natural Resources Wales / The National Peatland Action Programme).

The Programme recognises the intrinsic link between the carbon storage, greenhouse gas emissions regulation and biodiversity benefits provided by peatlands and aims to increase the ecosystem resilience of Welsh peatlands through an ambitious programme of restoration and sustainable management. In doing so NPAP will contribute tangible outcomes to help address both the Nature and Climate emergencies.

In short, the national programme (Table **1** following) identifies a focus for restoration activity across six priority action themes which represent the primary contexts of peatland degradation in Wales.

- Peat erosion
- Peat drainage
- Sustainable management of degraded upland peatlands
- Sustainable management of degraded lowland peatlands
- Afforested peatland
- Hyper-modified peatlands

An additional three cross-cutting themes provide national coordination across critical areas relating to our collective capacity and capability in Wales to deliver peatland restoration where it is needed most urgently.

- National coordination
- National monitoring and activity capture
- Increasing stakeholder and wider engagement in peatland restoration and its value to society

Table 1. Summary of NPAP priority action themes and cross cutting themes.

NPAP Priority Action Themes

Peat erosion

- Peatland erosion results in the loss of peatland vegetation and part or all of the essential supporting peat deposit.
- Erosion results in significant emissions of greenhouse gasses (GHG) and particulate and dissolved carbon.
- Peat erosion also causes significant drainage impacts which extend well beyond the immediate footprint of erosion features.
- Erosion will be exacerbated by climate change and whilst a relatively local and primarily upland issue, urgent action is required to prevent further peat loss and to encourage its redevelopment through a range of techniques.

Peat drainage

- Active drainage remains widespread and is associated with increased GHG emissions as well as causing unfavourable hydrological regimes for active (peat forming) mire habitats.
- Drainage also introduces positive feedback mechanisms through changes in surface topography which result in greater water loss.

Sustainable management of degraded upland peatlands

- Blanket bog is our most extensive peatland habitat, and its landscape scale gives it particular significance in terms of ecosystem resilience, GHG mitigation, carbon storage and natural flood-risk management.
- Peat erosion and drainage are key themes in their own right, but further widespread measures are needed to tackle issues of graminoid or ericoid dominance and the restoration of blanket bog from heavily modified precursors.
- The aim of this action theme is to restore blanket peatlands to a condition where low-cost sustainable management is effective in retaining ecosystem service provision and biodiversity interest, and reducing fire risk.

Sustainable management of degraded lowland peatlands

- Lowland peatlands are a critical resource for peatland biodiversity but are fragmented, with low current resilience.
- Modified lowland peatlands release significant GHG emissions and may store large amounts of carbon per hectare due to the depth of peat deposits.
- This theme focuses on restoring sites to a point where ongoing sustainable management (including seasonal grazing where appropriate) can sustain ecosystem service provision and biodiversity interest.

Afforested peatland

- Afforestation results in increased emissions of GHG from the peat surface and causes peatland habitat degradation.
- Afforested peatlands are an extensive component of the Welsh peatland resource, mainly in upland contexts.
- The current focus of the Programme is on restoring areas of peatland with low yield class plantations, and also open ground within the Welsh Government Woodland Estate.

Hyper-modified peatlands

- These comprise our most heavily modified peatlands and include heavily drained areas under improved grassland and arable land use: the most intensive GHG emissions arising from peatlands in Wales are from these categories.

- This priority action will seek to begin through a process of consultation and the use of demonstration sites.

Cross-cutting Themes

National Coordination

- National coordination is needed to build capacity and capability in delivering peatland restoration on the part of all NPAP partners.
- The Area Statement Process forms an important part of this work, with a national practitioner forum being used to promote best practice across all aspects of NPAP.
- The theme will also focus on developing guidance where needed and helping in the provision of training for both practitioners and contractors to up-scale the ability to deliver restoration projects.

- A national coordinated programme of activity recording and outcome monitoring is needed, to ensure accurate reporting of project actions and outcomes, for a wide range of reporting drivers.
- This work is also needed to guide and target further effort and ensure a focus on priority locations, across the six priority action themes.
- This priority action theme is supported by a dedicated post within the NPAP structure, namely the Data and GIS Officer.

National monitoring and activity capture

Increasing stakeholder and wider engagement in peatland restoration and its value to society

- Peatlands are one of Wales' main environmental assets, providing an exemplary aspect of the principle of employing nature-based solutions to deliver Sustainable Management of Natural Resources (SMNR) in Wales.
- This cross-cutting theme will work to increase engagement in peatland restoration on the part of stakeholders and the wider community.
- This priority action theme is supported by a dedicated post within the NPAP structure, namely the Communications and Partnerships Engagement Officer.

2. Programme Resourcing

Welsh Government funding for the Programme was confirmed during the 2nd quarter of 2022/23, with £1M identified for capital restoration works. A revenue allocation of £372k was provided for programme management. Additional funding of £1.1M from Welsh Government's Rural Investment Scheme was added during the year.

2.1. Programme management

In its third year, the Programme has been supported by six project staff appointed under FTA contracts to March 2025. No staff changes occurred in 2022/23. Other NRW staff also made a significant contribution to programme delivery, notably Mannon Lewis providing the senior management lead on the future development of the programme, and Dr Peter Jones as NRW's Lead Specialist Advisor for peatlands who continued to support a wide range of NPAP work; both provided programme management functions for different aspects of the project.

Table 2. Summary of NPAP posts.

Title	Start date	NRW Directorate	Host Team in NRW	Role
Project Manager	18/5/20	Evidence Permitting and Policy	Terrestrial Ecosystems and Species	Leadership and management of project
Finance & Grants Officer	1/9/20	Operations	People and Places, North West	Budget planning, procurement, grants management, contractor management and project support
Project Officer, South	1/9/20	Operations	People and Places, North West	Groundworks planning and delivery
Project Officer, North	1/9/20	Operations	People and Places, North West	Groundworks planning and delivery
Data & GIS Officer	Q2, 2021/22	Evidence Permitting and Policy	Terrestrial Ecosystems and Species	Management of SMNR data portal – data & GIS management
Communications and Partnership Officer	1st: Q2-3, 2021/22 2nd: 21/03/22	Evidence Permitting and Policy	Terrestrial Ecosystems and Species	Management of external and internal communications and partnership engagement
Procurement officer (0.5) (Contractors)	Q2 2020/21	Operations	Procurement	Support for operation of the two all-Wales NRW frameworks

2.2. Programme governance

Programme governance measures remain unchanged from those implemented at inception. A combination of line management by two team leaders and scrutiny through the NRW Capital Projects oversight board being augmented by a formally constituted project Board established in September 2020 and answerable to NRW's Biodiversity and Ecosystem Resilience Board, and the Natural Resources Management Board.

Welsh Government's lead on peat policy is represented on the National Peatland Action Programme Board.

A wider NRW Peat Group also exists to support NPAP.

Project governance has proceeded according to the principles of NRW's Managing our Money financial scheme of delegation, with project planning being developed through an Excel-based project plan following the PRINCE2 methodology.

Project planning documentation and assurance continues to follow the systems developed under NRW's Portfolio Management Office in accordance with the five-case business model.

3. Funding mechanisms used to deliver the 2022/23 programme

To ensure effective delivery of the allocated budget within a challenging timescale, the National Peatland Action Programme (NPAP) made use of a variety of funding mechanisms to reduce project risks.

NPAP used the following mechanisms to fund and deliver capital projects:

- grants
- direct procurement
- land management agreements

3.1. Grant aid

Delivery of the Programme requires the concerted and coordinated input of a wide range of partner bodies, many of whom have significant expertise in peatland restoration.

Grant aid represents a key means of partner engagement, enabled by NRW's new grant mechanism portfolio. Of the three grant mechanisms, Strategic Allocated Funding (SAF) and competitive grant funding was available for use in 2022/23.

NPAP sought assurance for the grants programme from the new and independent Programme Management Office that evaluates programmes against a five-case business model before gaining programme sign-off according to the Managing our Money principles.

The SAF mechanism is designed to enable delivery of NRW priority work by strategic partners, with budgets allocated between partners according to a formula based on objective criteria. In 2022/23, NPAP used SAF to allocate grants to a range of grant recipients, with nine accepting the SAF offer.

Figure 1. Both chart and associated table below show peatland restoration funded through the Strategic Allocated Funding (SAF) Grant in Year 3 (2022/23). Total allocated to partners through SAF being £700k and total spent by partners coming to £634,530.

Strategic Allocated Funding	Amount
Radnorshire Wildlife Trust	£7,334
Wye Valley AONB	£13,818
North Wales Wildlife Trust	£20,067
Pembrokeshire Coast NPA	£20,291
Clwydian Range and Dee Valley AONB	£22,246
RSPB	£54,997
Bannau Brycheiniog NPA	£86,995
National Trust	£107,144
Eyri NPA	£301,638
Total	**£634,530**

April 2022 saw the launch of the first round of the competitive Development Grant offering between £10,000 and £30,000 to support individuals and organisations in planning peatland restoration projects. This Development Grant helps new partners to take key steps in assessing their peatland/s before submitting an action plan to support future restoration. Given the interest in the first round, a second round was launched in November 2022 with a view to starting in 2023 and concluding the work by end March 2024. Grants in the first round were awarded to Rhondda Cynon Taf County Borough Council, Welsh Water Elan Trust, and Eryri National Park. Examples of actions taken to prepare for shovel-ready peatland restoration included gathering data on sites including GIS data on peat depth and artificial drainage, preparing to re-establish sphagnum moss, and community liaison and securing permissions.

3.2. Direct procurement

The selection of sites for inclusion in the five-year NPAP programme was initiated late in 2019, with members of NRW's internal Peat Group and other NRW staff supporting the process with suggestions for project sites according to the six priority action themes.

Afforested peatland sites were selected, following discussion with NRW's National Forest Planning Team and direction from the Land Stewardship Department to focus on areas of low yield class (<10) and existing open ground (as defined through the Forest Resource Planning process), see Figure 2.

Figure 2. Before (top) and after (bottom) hydrological restoration works at Figyn Blaen Brefi SSSI on the Welsh Government Woodland Estate (WGWE). Photo shows how construction of peat dams and contour bunds reduces water loss and increases bog pool habitat. *Photos: Cartwright Associates/Owen Environmental*

NPAP continues to establish, develop and maintain close positive working relationships with NRW colleagues working on the WGWE. This includes: identifying potential areas for restoration on NRW managed land, building collaboration between the NPAP team and established forestry management/policy teams, developing further work programmes, developing ways of working and sharing knowledge on sites, and identifying processes and governance (e.g. timber sales process).

NPAP has also funded works on Special Areas of Conservation (SAC) National Nature Reserves (NNRs) supported by local NNR and integrated workforce teams (Figure 3). NPAP directly purchased works through NPAP's framework agreements (see Year 1 Report).

All site works were screened by NRW's internal Environmental Assessment Team to ensure early recognition of potential impacts and to put in place avoidance and mitigation measures.

Direct procurement for restoration action and peatland management on the Anglesey Fens (Corsydd Mon SAC) included:

- Strimming and raking up vegetation in the most sensitive areas of alkaline fen
- Installation of an electric fenced area to ensure better grazing management for the largest remaining population of fly orchid in Wales
- Mowing with the Pistenbully
- Strimming and raking up vegetation – Bodeilio
- Electric fence area – Bodeilio

Figure 3. Dense vegetation at Cors Bodeilio required mowing, strimming and raking

3.3. Section 16 Land Management Agreements

Direct funding by NRW of restoration or management activity on third party land is generally governed by a Section 16 Management Agreement[1] (S16 LMA).

New S16 agreements have been established with third parties and works have been delivered through both the existing and new agreements. New agreements were established at Allt Forgan and Cerniau on the Vyrnwy Estate and for the Elan Valley in 2020/21, Rhiwargor at Vyrnwy in 2021/22, and Gadfa and Hafod, also at Vyrnwy, in 2022/23. Agreements are in place for five years and allow funding on the areas included for the duration of the agreement. Figure 4 shows an example of works delivered through a S16 LMA in 2022/23.

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[1] See Environment (Wales) Act 2016 - Explanatory Notes (legislation.gov.uk)
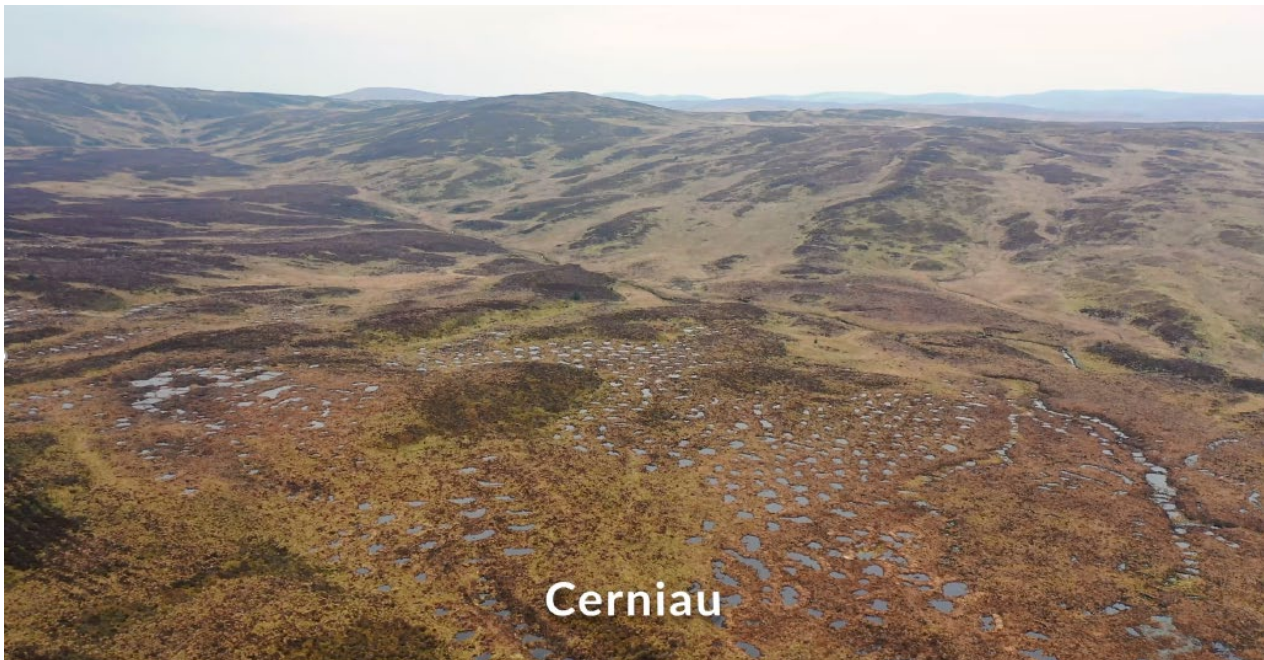
Figure 4. Large-scale upland blanket bog restoration on Cerniau, part of Y Berwyn SAC. This area is included in a S16 agreement established in 2020/21, with works delivered across 2020/21, 2021/22 and 2022/23. The resulting pools closely mimic the natural patterning which is a feature of actively growing peatlands and of significant importance for peatland biodiversity – few Welsh peatlands now exhibit these features, with erosion and drainage likely to be key factors. *Photo: Alexander Falkingham, RSPB*

3.4. Preparation for future years

NPAP has invested in developing work plans for delivery in future years. This includes identifying NRW-managed land on the WGWE requiring restoration within current forest design plans, undertaking extensive drone survey of inaccessible areas, obtaining environmental screenings for proposed sites, and addressing screening suggestions, e.g. obtaining water course consents, water vole licences, peat surveys, data collation, and undertaking line-checks. NPAP has worked to develop further Section 16 agreements so that they can be finalised and delivered in subsequent financial years.

3.4.1. Peatland restoration opportunities on the Welsh Government Woodland Estate

The WGWE holds 16% of the peatland resource in Wales and 13% of the Estate is on deep peat (Figure 5). This presents the major opportunity in Wales for the restoration of afforested peatland and will also enable NRW to develop and promote best practice for use elsewhere.
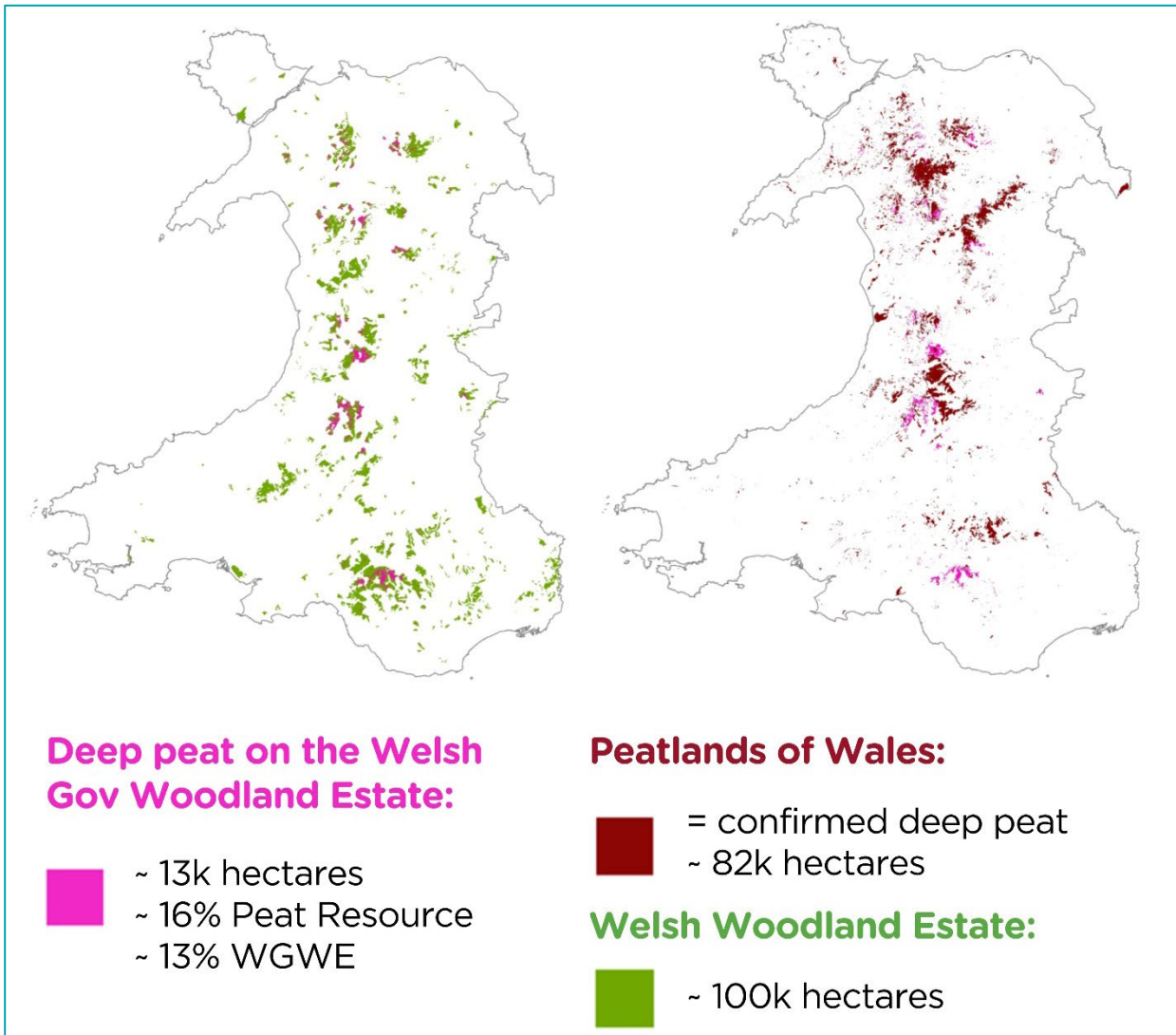
Deep peat on the Welsh Gov Woodland Estate:

■ ~ 13k hectares
~ 16% Peat Resource
~ 13% WGWE

Peatlands of Wales:

■ = confirmed deep peat
~ 82k hectares

Welsh Woodland Estate:

■ ~ 100k hectares

Figure 5. Distribution and extent of deep peat in Wales and on the Welsh Government Woodland Estate

Not all of the Estate is afforested. Unplanted areas that are on deep peat provide more immediate opportunities for peatland restoration. Scheduled felling of low-yield crops that will not be replanted provides further opportunities to restore peatland on deep peat.

NPAP invested substantial time in Year 3 to extend the identification of opportunities for peatland restoration in afforested contexts across Wales. This is now being used for programming of peatland restoration in the short (2-5 year), mid (5-10 year) and long-term (>10 year), according to the following categories:

- Broad scale, short to mid-term availability of unplanted land
- Broad scale, mid to long-term availability of felled plantation that will not be replanted
- Mid-term availability of areas yielding poor quality timber on deep peat identified as part of the 10-year cycle of Forest Resource Plans for individual forest blocks
- NPAP's work programme of restoration through direct delivery in the short to medium term.

Forest Resource Planning to further NPAP's work programme

Peat toolkit survey outputs are an essential and prerequisite data source for Forest Resource Plan (FRP) production (see Year 2 Report). As the surveys are undertaken, forest resource planners use the evidence to make recommendations and decisions which are balanced with other priorities to ultimately deliver on the aims for the WGWE set out in 'The Purpose and Role of the Woodland Estate'. Recommendations for areas of peatland restoration are based on guideline criteria that deep peat is present, and yield class is low (less than 10), see Figure 6.

Figure 6. Examples of low yield forest on deep peat

NPAP manages a schedule of surveys across the WGWE that supports the FRP process and helps to elucidate areas of deep peat. In Year 3, NPAP's efforts focused on forest

blocks with the highest hectarage of peat such as the Cambrian Mountains and Alwen forest blocks (See Section 6.1.2).

Peat toolkit recommendations are reviewed alongside yield class and peat depth to identify opportunities for peatland restoration in the short to longer term as well as site visits for forest and peatland technical experts to refine areas selected for restoration (Table 3).

Sites are then incorporated into NPAP's Work programme for direct delivery that includes development of restoration contracts through restoration design and pre contract management of licences and consents in addition to capital works. Restoration sites include open sites such as Llyn Gorast as well as previously afforested sites including Nant Gwinau.

Table 3. Steps and methods deployed to identify areas of forest land for peatland restoration

Steps	Method
Identify forest blocks with peat	Peat distribution maps: 32 blocks with more than 10ha peat
Identify areas to survey for peat within forest block	Forester knowledge & desk study (peat maps, historic poor yield)
Peat Toolkit surveys	Yield class, peat depth, vegetation surveys contracted by NPAP
Recommendations review	Forest & Peat Operations teams: review maps of surveys and identify areas for site visits
Site visit & refinement of restoration areas for Forest Resource Plans	Forest & Peat Operations teams: refine areas for peat restoration

Figure 7. Llyn Gorast central, an example of a recent restoration site.

Figure 8. Restoration design incorporates multiple features, such as dams and contour bunds in hydrological management to optimise the restoration potential of the peatland.

4. Overview of work delivered during Year 3 of the Programme

Following are some key project summaries with figures illustrating some of the main areas of delivery achieved in 2022/23.

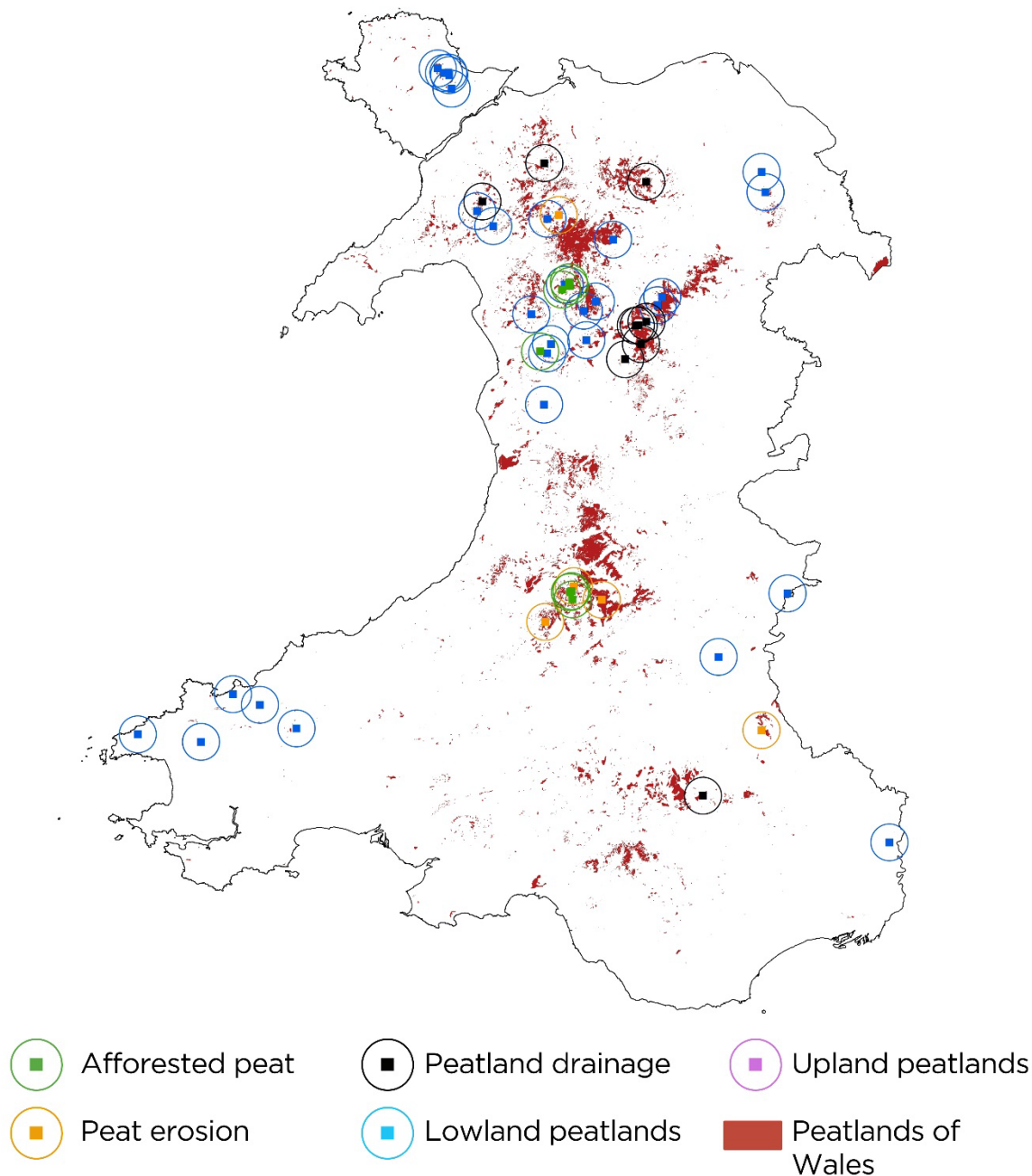## 4.1. Peatland restoration through capital delivery

Figure 9. Map showing the location of sites put on the path to recovery in 2022/23, and the main type of restoration activity at each, overlain on the Wales Peatland Map.
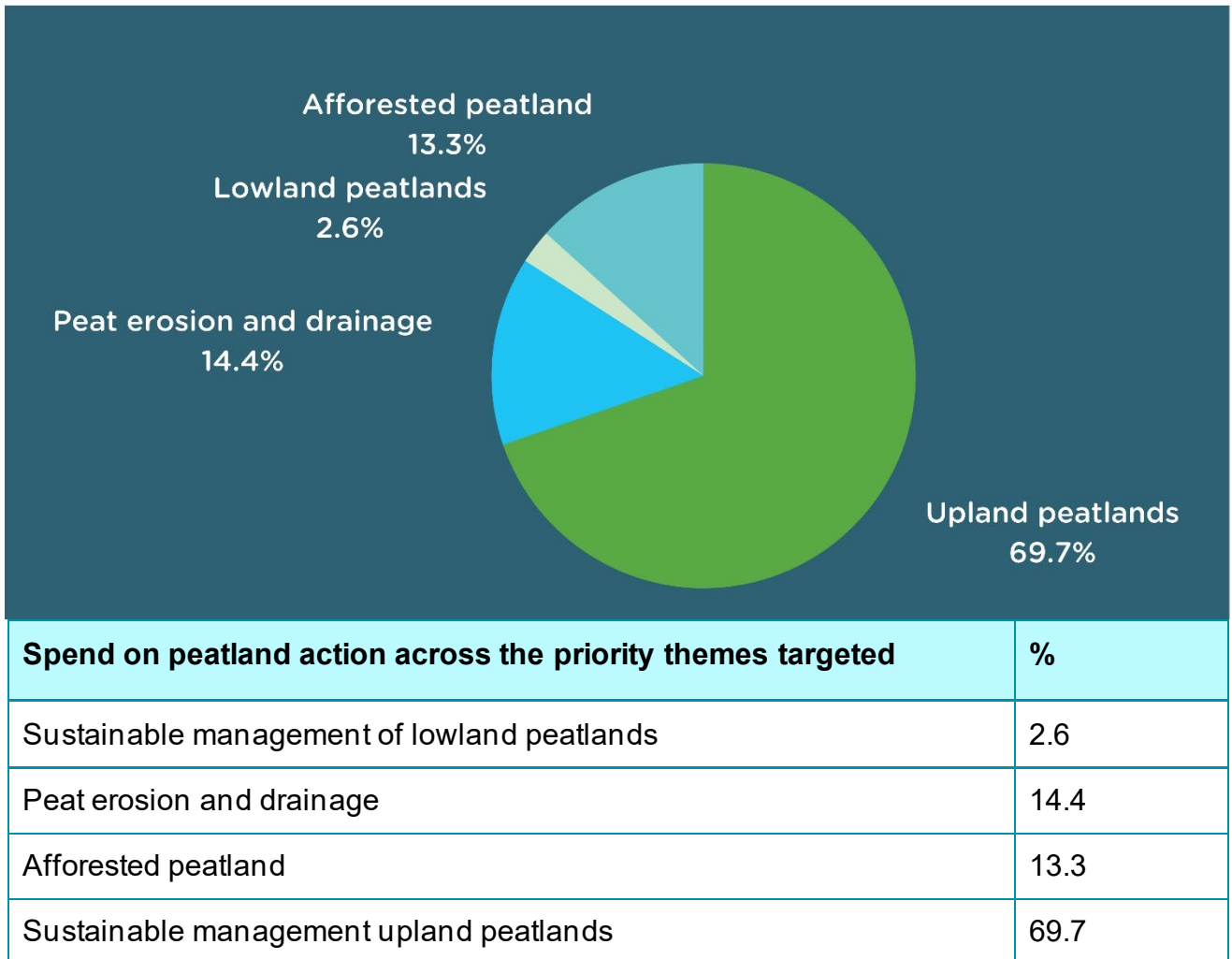
Spend on peatland action across the priority themes targeted	%
Sustainable management of lowland peatlands	2.6
Peat erosion and drainage	14.4
Afforested peatland	13.3
Sustainable management upland peatlands	69.7

Figure 10. Pie chart and linked table show summary of spend across the priority action themes targeted in 2022/23.

Table 4. Breakdown of delivery against mechanism used 2022/23.

Mechanism	Reported ha	Main priority themes addressed
Strategic Allocated Funding Grant	3,394*	• Peatland drainage • Peat erosion
Section 16 Land Management Agreement	247*	• Peatland drainage • Erosion • Sustainable management of uplands
Direct procurement of groundworks	143	• Afforested peatlands • Lowland peatlands

* ha figure is subject to review to bring it in-line with NPAP recording methodology. Conservative estimates of hectares delivered total 630ha. Figures in this table, reported for SAF grants includes substantial hectarages where the main activity has been *sitka* seed-in removal.

4.2. Eryri National Park SAF

Wales Peatland Action in partnership

Funded by NPAP through SAF grant

3,200 ha

of restoration activity*

ditch blocking,
gully blocking,
and pool creation

hagg re-profiling
and covering bare peat

clearing conifer re-generation
and scrub clearance

grazing management

*NPAP is working to improve consistency of reporting ha under restoration activity

4.3. Bannau Brycheiniog NPA SAF

Wales Peatland Action in partnership

Funded by NPAP through SAF grant

35 ha

of restoration activity*

Waun Fach and Waun Rydd

Up to **2000m** haggs reprofiled
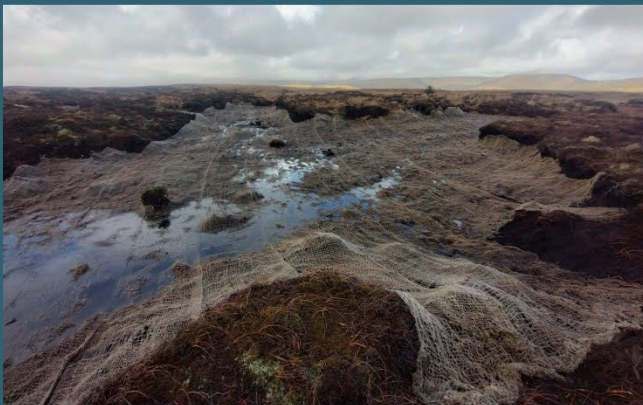Up to **6500m2** of bare peat brashed, seeded and covered

Waun Fach

1000m contour bunds
1.5ha planted with **2000 litres** of Sphagnum

Waun Rydd

4000m2 of bare peat was juted and re-seeded

*NPAP is working to improve consistency of reporting ha under restoration activity

4.4. National Trust SAF

Wales Peatland Action in partnership

Funded by NPAP through SAF grant

43 ha of restoration activity*

Abergwesyn

5.7km
haggs re-profiled

259
bunded pools created
134
pools & scrapes created

*NPAP is working to improve consistency of reporting ha under restoration activity
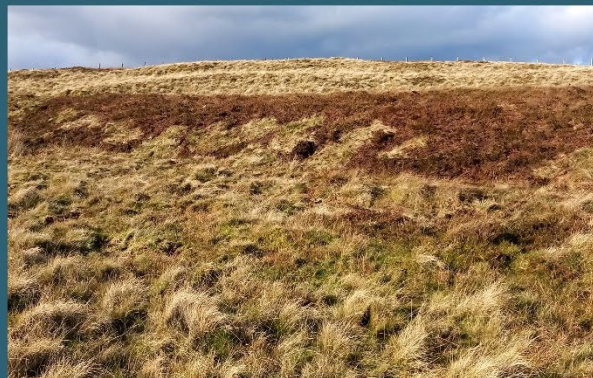
4.5. RSPB SAF

Wales Peatland Action in partnership

Funded by NPAP through SAF grant

27 ha

of restoration activity*

Hagg re-profiling, before ▲ and after ▲

*NPAP is working to improve consistency of reporting ha under restoration activity

Photos: Alexander Falkingham, RSPB

4.6. Restoration work funded through the SAF grant (all less than £25k in value)

Wales Peatland Action in partnership

Funded by NPAP through SAF grant

(all less than £25k in value)

>50 ha

of restoration activity*

Bryniau Clwyd a Dyffrwy Dyfrdwy
Clwydian Range and Dee Valley
Ardal o Harddwch Naturiol Eithriadol
Area of Outstanding Natural Beauty

North Wales Wildlife Trust
Ymddiriedolaeth Natur Gogledd Cymru

Radnorshire Wildlife Trust
Ymddiriedolaeth Natur Sir Faesyfed

Parc Cenedlaethol Arfordir Penfro
Pembrokeshire Coast National Park

wye valley dyffryn gwy
Area of Outstanding Natural Beauty
Ardal o Harddwch Naturiol Eithriadol

*NPAP is working to improve consistency of reporting ha under restoration activity

4.7. Land Management Agreements

Wales Peatland Action in partnership

Funded by NPAP through Section 16 Land Management Agreements

247 ha of restoration activity*

Cerniau, Rhiwargor & Gadfa

14.07km ditches blocked
37.82km gullies blocked
17.03km peat haggs and bare peat re-profiled or covered to prevent further erosion

Gadfa, before ▲

... and after ▼ ▶

*NPAP is working to improve consistency of reporting ha under restoration activity

Photos: Alexander Falkingham, RSPB

4.8. NRW direct procurement
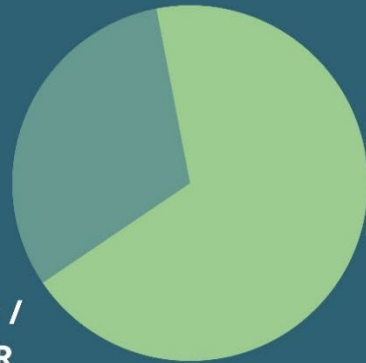
Figyn Blaen Brefi Photos: Cartwright Associates Ltd and Owen Environmental
Llyn Gorast Photo: Dinsdale Moorland Specialists Ltd

5.Coordinating and supporting delivery

There is a distinction between NPAP's strategic role and delivery role. An overview reflects the cohesion between these dual NPAP roles as well as the collective peatland action by the partners across Wales.

NPAP delivery informs strategy as does the communication with external and internal partners. Conversely, the strategic role allows NPAP to provide cohesion and facilitate best practice in delivery and reporting by internal and external partners.

NPAP's strategic role is enabled through the support of many external and internal partners focused on peatland restoration. Although they function under different organisations or departments, they are integrated by the funding provided by Welsh Government and the peatland restoration strategy led by NPAP.

Collectively, this activity reflects Welsh Government ambition and investment in tackling the Climate and Nature emergencies through peatland restoration and is therefore seen as Wales Peatland Action (see Figure 11). This report, as well as summarising the direct delivery and strategic lead by NPAP, also reflects the success of this wider Wales Peatland Action in partnership.
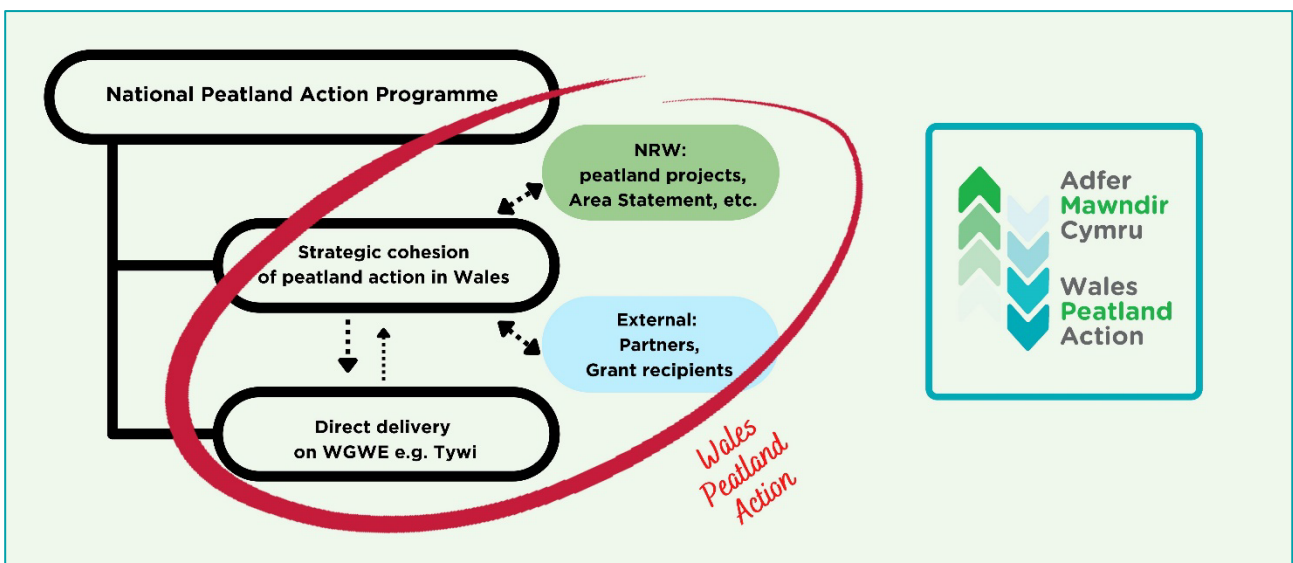

Figure 61. Showing that Wales Peatland Action is a partnership approach and includes all peatland restoration action funded by Welsh Government.

5.1. Strategic partnerships

Extensive engagement to convey the benefits and opportunities of peatland restoration is important for the Programme's strategic role. NPAP coordinates over 10 key partnerships, groups with interest or networks, and contributes peatland expertise to over 10 associated groups. Of the extensive partnerships and networks liaised by or contributed to by NPAP, four of the key national and UK-wide groups, aimed at identifying effectiveness and efficiency, are outlined below.

Wales – Area Statement Partnerships place-based engagement

Coordinating, supporting and helping to enable restoration delivery by partners features as one of the three cross-cutting themes of NPAP. The importance of Area Statements is recognised in WG's Natural Resources Policy and is enshrined in legislation as Section 11 of the Environment (Wales) Act 2016.

The Area Statement (AS) approach underpins NPAP's work in this area and its importance is reflected in the location of the three groundworks project delivery roles within the North West People and Places Team.

The six terrestrial AS partnerships (see Figure 12) provide existing groupings of stakeholders NPAP can use to ensure a collaborative approach to the development of restoration programmes at the most appropriate scale and at the right locations within the overall guiding framework of the National Programme.

This place-based approach is a cornerstone of the AS philosophy and will help ensure NPAP builds capacity and capability in those parts of Wales or in those sectors where relatively little activity is taking place to-date.

2022/23 initiatives between NPAP and the AS teams include project development with the NW Wales and Mid Wales teams around engagement, project extension, and exploring grazing interest on peatland.

Area Statement engagement

Wales Peatland Action in partnership

Cyfoeth Naturiol Cymru
Natural Resources Wales

North West and Mid Wales represent 85% of Welsh peatlands
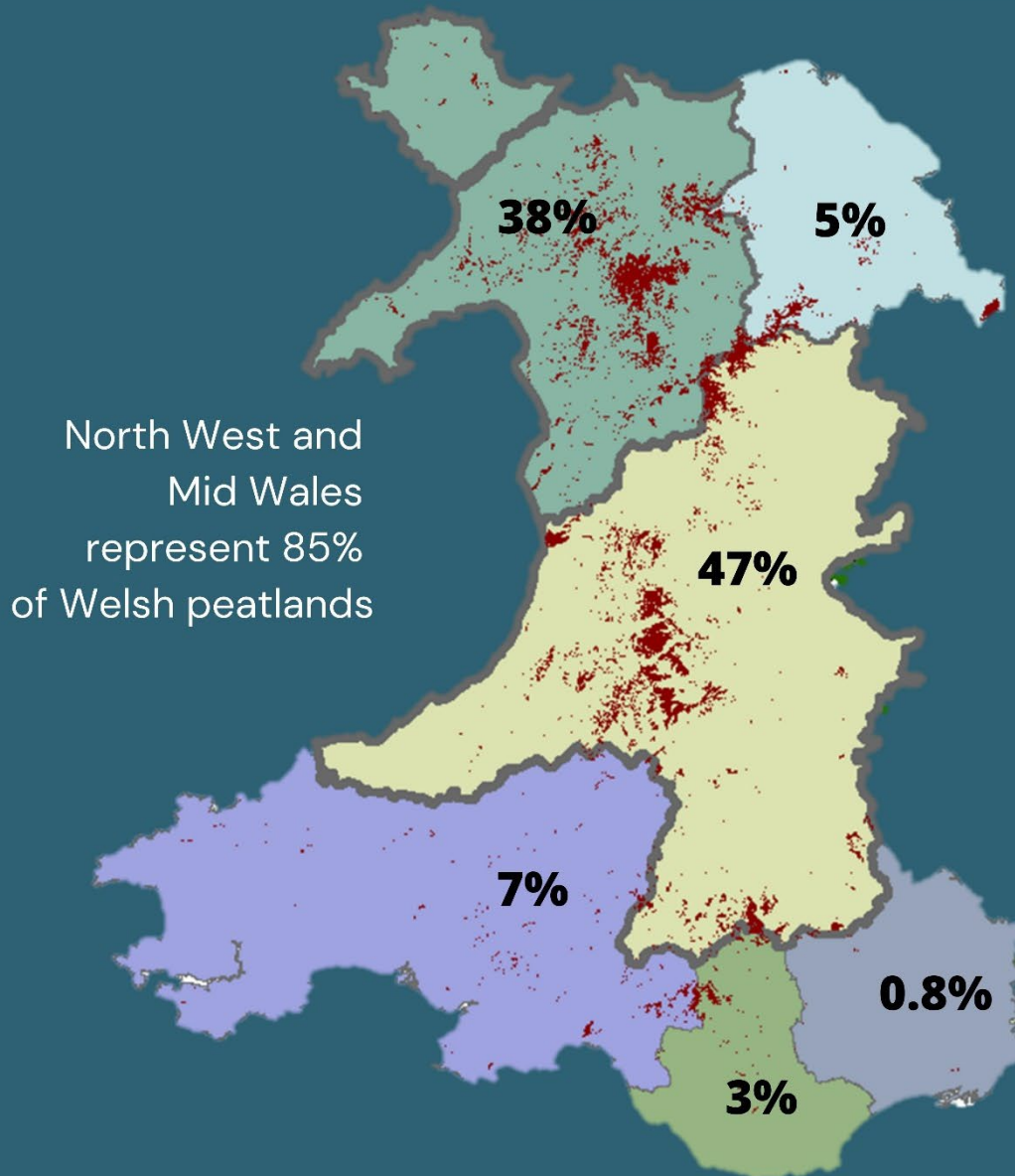
38%

5%

47%

7%

0.8%

3%

Figure 72. Welsh peatlands are well represented in the Mid and North West Wales Area Statements where NPAP has focused engagement during the early years.

Wales Peatland Action Strategic Delivery Partners Group

The aim of this top-level partnership group is to ensure a joined up strategic approach. This is enabled through information exchange, joint recognition of priorities, strong partnership working and support, as well as identify other funding opportunities. The group also provides a means of supporting the identification and resolution of key blockers to improving the ecological resilience of Welsh peatlands.

UK – IUCN

NPAP played a key role in the International Union for Conservation of Nature (IUCN) UK Peatland Programme Conference, this year held in Wales, at Aberystwyth 4/10-6/10. Around 250 delegates attended and feedback was good. NPAP team was part of the planning committee, together with IUCN's peatland and the LIFE Welsh Raised Bog project teams. Talks presented by NPAP are available on the IUCN UK Peatland Programme website.

UK – Four National Peat Delivery Programmes Group

NRW convened a first meeting on 20 July 2022 of a new group set up to enable information exchange and joint working between the four statutory body-led national peatland restoration programmes across the UK. The group will focus on issues specific to the remit of each of the four programmes, and regular meetings are proposed with a focus on key issues such as national monitoring and reporting methodologies, the challenges involved in upscaling programmes, and addressing hypermodified peatlands.

5.2. Contractor engagement

Work to develop the existing contractor base for NPAP has continued in 2022/23, across the 15 contractors on 11 different lots of the existing £10M framework that runs until December 2024.

This process was instigated in 2021, in direct response to contractor capacity being identified as a key risk to NPAP delivery targets. The increase in delivery targets has increased the urgency and made this a priority task.

NPAP does not face this problem alone – delivery partners are reporting difficulty in securing contractors and contractors are reporting difficulty in the recruitment and retainment of skilled and experienced operators.

Contractor and delivery partner engagement therefore remains a priority. Outreach efforts have included project reviews and progress meetings with delivery partners as well as engagement visits with contractors and site meetings during active projects. Feedback has been gathered at different stages of project development including an end of grant review, to inform future grant processes. Contractor engagement, although mainly focused on project delivery and equipment, has also included information exchange about improved practice on aspects of surveying, such as for water vole, or species licence conditions.

Some of the benefits of NPAP's continued supplier engagement include:

- an increase in the number of quality bids, monitored over 12 months
- introduction of two-year contracts
- less contracts not awarded due to concerns over value for money
- reduction in the number of performance issues e.g. yellow/red card events
- increased awareness about NPAP plans and priorities

5.3. Engagement

NPAP benefits from strong delivery partner relationships with increasingly collaborative engagement activities.

In addition to engagement with peatland restoration delivery sites, NPAP has held over 100 engagement meetings, presentations, and in-person or digital outreach events in 2022/23. Of these 72 have involved external engagement. NPAP is both proactive with offers of engagement and responsive to requests. The variety of the events and activities reflect the range of parties with an interest in peatland restoration, very broadly summarised as follows:

- Public interest – through public events such as the Royal Welsh Agricultural Show and the National Eisteddfod, media events, and an in-depth art project at Cors Bodeilio which culminates on a national stage in 2023/24.
- Landowners, farmers, communities, anyone with potential interest in peatland restoration – directly as individuals, in outreach events, and through publicity around new grant launches including online guidance webinars. Two rounds of Development Grants were launched in 2022/23 providing funding to develop a plan for follow-on shovel-ready peatland restoration.
- Existing delivery partners – through the partnership groups outlined previously but also through direct contact and online guidance webinar for the Strategic Allocated Funding grant applicants.
- Professional experts and academics – through partnership groups but also proactively and directly to share best practice, recent research, new technological advances, etc. Supporting the IUCN UK Peatland Conference is one example. Locally, besides research expertise, strengthening links with universities and colleges provides the additional mutual gain of developing the peatland restoration professionals of the future.
- Policy makers and officials – through data, reports and meetings, NPAP feeds into the collective Welsh Government Net Zero aims.
- NRW colleagues – through strategic and delivery groups but also through direct contact with specialists working across the organisation on peatlands, species, forestry, hydrology, etc. Processes also feature in internal engagement, as NPAP is supported by key internal functions that enable the Programme's success.

To complement the in-person partnership and public engagement, other key communication channels are: the website, social media, media, and videos. Individuals contact the Programme directly through npap@cyfoethnaturiolcymru.gov.uk.

NPAP communicates the need for peatland restoration on the grounds that:

- The 4% of the surface of Wales that is peatland has the capacity to hold 30% of our land-based carbon.
- Unfortunately around 90% of Welsh peatland is in a damaged state and in this condition is accelerating climate change by releasing greenhouse gasses.
- The solution is relatively simple and cost-effective, namely peatland restoration to a functioning water-retaining biodiverse landscape.
- Besides addressing the Nature and Climate emergencies, peatland restoration can also help mitigate other impacts of climate change, such as flood and fire risk.

6. Evidence programme

6.1. NPAP's monitoring strategy

Our approach to monitoring is based on being able to demonstrate change in relation to two core sets of outcomes, namely ecological change (which is expected to mainly comprise biodiversity improvement) and predicted changes (generally reductions) in greenhouse gas emissions. This approach is summarised in Figure 13.
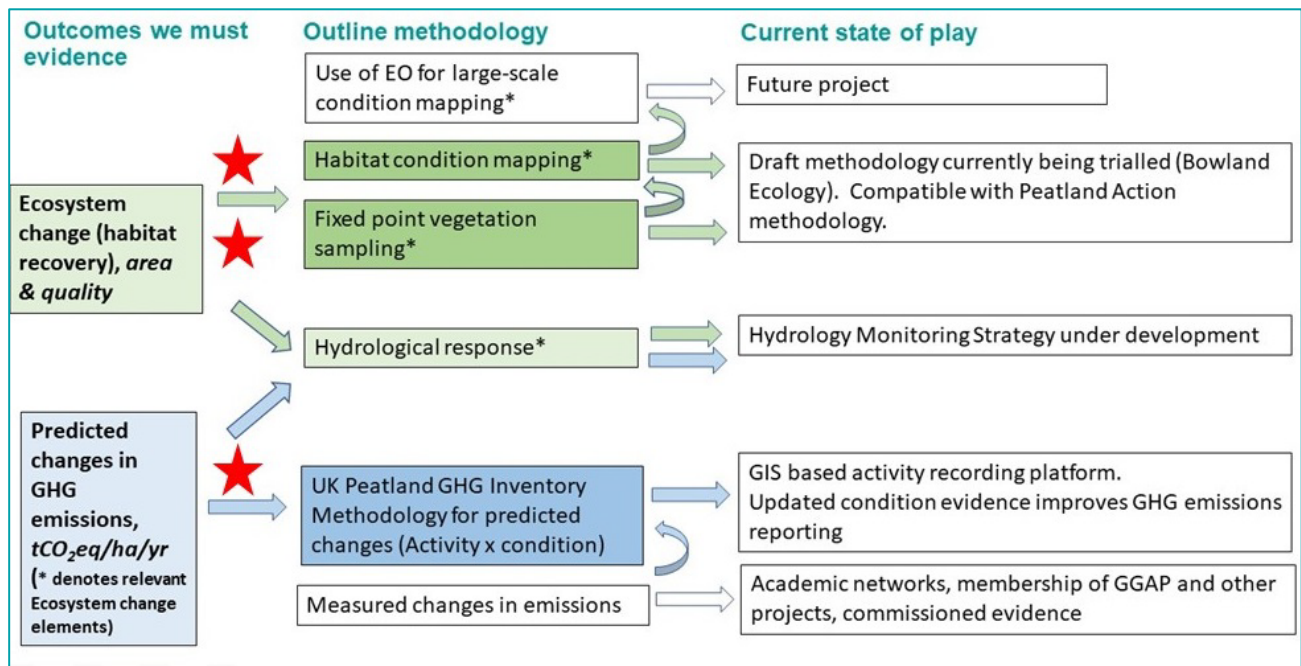

Figure 83. Summary of NPAP's approach to monitoring the outcomes of peatland restoration. Only elements marked with a red star are current areas of work.

Assessment of predicted changes in greenhouse gas emissions is covered by NPAP's work to develop a comprehensive restoration activity recording system – see section 6.2.2. Future work is planned to further develop the monitoring of hydrological responses, including development of the overall approach as well as the installation of baseline monitoring at a selection of sites (some automated water table level monitoring is already in place at Cwrt, Hafod Elwy, Claerwen and Llyn Gorast (Tywi Forest)). The approach to assessing ecological change is described in the next section.

6.1.1. Ecological monitoring

During 2022, a draft monitoring methodology was developed for assessing the ecological outcome of restoration. This was informed by earlier work commissioned by NPAP and funded by Welsh Government (see the Year 2 Report) and also work being undertaken by Peatland Action in Scotland to develop a closely related methodology. NPAP has also drawn on other monitoring schemes developed by a wide range of partners. The methodology comprises two main parts, namely definition and mapping of habitat condition categories, followed by the establishment and sampling of relocatable quadrats according

to a specific sampling design. The underpinning rationale for these two methodological elements is explained in further detail in Table 5.

Table 5. Summary of the contribution of the draft habitat and vegetation monitoring methodology in assessing NPAP's core outcomes.

Methodology element	Contribution to core outcomes: Ecosystem Change	Contribution to core outcomes: GHG Emissions
Habitat condition mapping (baseline and repeats)	Changes in the extent and character of condition states provides a direct measure of ecosystem change. Mapping of condition types provides the basis for siting relocatable sample points according to a stratified random sampling approach.	Improves accuracy of emissions reporting on NPAP sites by providing reliable and repeatable mapping of condition states to be used in combination with activity recording data. Provides a source of up-to-date ground-truthed data for assessing utility of Earth Observation (EO) based assessments.
Collection of vegetation and related data at relocatable point samples	Provides a repeatable consistent measure of vegetation composition and condition based *inter alia* on cover, local frequency, and Common Standards Monitoring attributes.	Provides a repeatable measure of condition state which can be aligned to UK Peatland Emissions Inventory categories. Provides a source of up-to-date ground-truthed data for assessing utility of EO based assessments.

In Year 4, NPAP will review the methodology based on the experiences gained during the 2022 season and by Peatland Action in Scotland using a similar methodology in 2022. This will feed into a revised methodology for a further round of baseline monitoring beginning in 2023.

Revisits to undertake repeat monitoring will be scheduled for between three and five years' time given the generally relatively slow rate of floristic change in peatland habitats.

6.1.2. Peat distribution mapping

The Peatlands of Wales map series

The Peatlands of Wales map series provides current best estimates of peat distribution across Wales, a measure of the confidence that peat is present at a given location (based on available evidence) and peat thickness as well as carbon stock and GHG emissions estimates across the peatland resource.

In the future, NPAP will update the maps according to the methodology report as new peat data become available.

In Year 3, the evidence layer proved to be a valuable guide for identifying areas of potential peatland for which the presence of deep peat has not been confirmed through dedicated peat surveys. In turn, these surveys, including those on the WGWE, will provide more confidence in the distribution of peatland throughout Wales for future updates of the map .

Peat surveys on the Welsh Government Woodland Estate

The third year of the Programme continued the surveying of afforested peat on the WGWE to inform the Forest Resource planning process (as described in the Year 2 Report). Every 10 years, NRW reviews the long-term management plans for each forest area. These are compiled in a new Forest Resource Plan.

In the first year of the programme, surveys were commissioned for the Dyfi, Coed y Brenin and part of the Cambrian Mountains. The surveys expanded from Year 2 to cover the Cambrian Mountains, Alwen, Cilcennin and Lampeter, Rhyd-y-main, and Gwydir. In Year 3 the surveys also included areas in the Llanuwchllyn, Myherin and Tarenig, Mawddach and Wnion, Machynlleth, Ruthin and Abergynolwyn forest blocks (Figure 14).
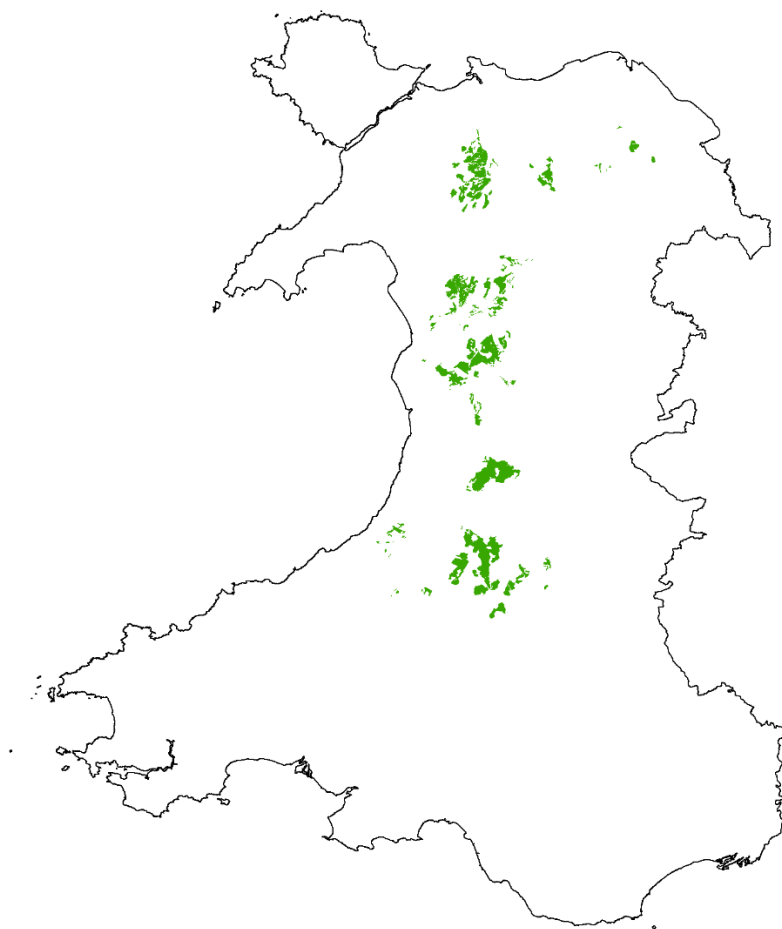

Figure 14. Forest blocks surveyed using the afforested peat toolkit, funded by NPAP to date.

6.1.3.National Peatland Action Programme register of evidence needs

Work to develop a register of evidence needs was completed in 2021 and this will serve as the basis for prioritising work commissioned directly by the Programme and also to help assess research proposals received from third parties and to help structure discussions on collaborative research with other partners. The register is cross-referenced to the SoNaRR evidence needs and identifies a total of 30 topics of which 3 were identified as potential priorities for funding in 2021/22, namely surveys of the afforested peatland estate, baseline condition surveys, and the use of Earth Observation techniques for assessing condition and restoration needs.

6.2. Recording, reporting and sharing of peatland action

6.2.1.Activity recording and reporting

A trial activity recording and reporting protocol was applied to capital works undertaken by grant recipients and NPAP direct delivery in 2021/22. The approach was adopted across all NPAP-funded works in 2022/23.

Activity recording and reporting methods developed apply the 'measure once, use many times' principle whereby standardised recording to capture activities in the same way everywhere can serve reporting to multiple stakeholders. Stakeholders have a range of interests in peatland restoration from engagement with people and places to metrics used to track impacts and recovery in the nature and climate emergencies.

From Year 3, Partner organisations are requested to record the restoration activities funded through NPAP's mechanisms as a condition of payment. The standardised methods define over 100 different types of activity and how each should be mapped to capture what was done where and when.

NPAP then applies protocols to map the extent of peatland targeted by different activities, reporting this as hectares of peatland put on the road to recovery via different management types used to restore the peatland (Table 6).

NPAP reports on the hectares of peatland action under each of the six priority themes as well as types of restoration activity in reports such as these, which form the basis for UK reporting on peatland action. Standardised recording also facilitates reporting on these metrics on regional scales, such as for the Area Statement teams to facilitate engagement and local coordination of effort.

Table 6. Restoration activities represented by Broad Management Types

Broad Management Types	Examples of restoration activity represented by each Broad Management Types
Hydrological management	dams, bunding, ground smoothing
Erosion control	hagg re-profiling, gully blocking, surface stabilisation
Vegetation management	revegetation, inns control, mowing
Tree management	cut and send, scrub control, regeneration removal, harvest
Nutrient control	swales and inception trenches, constructed wetland, farmyard runoff management
Grazing management	grazing control, infrastructure

The restoration activity footprint is the area of peatland targeted by restoration works. There may be more than one type of activity at a given location, so the total area of activities undertaken will be greater than the hectares of land area footprint. Both measures are important when looking at hectares of activity funded, and hectares of peatland brought on the pathway to recovery.

In these annual NPAP reports, the number of hectares funded each year are necessarily estimated in advance of the receipt, quality checking and collation of maps from partners. These add up to a total activity supported, rather than the footprint areas.

Both the footprint and areas of peatland restoration undertaken using different types management will be published on the Peatland Data Portal, and will be available via open government licence to download later in 2023 (Figure 15; Figure 16).
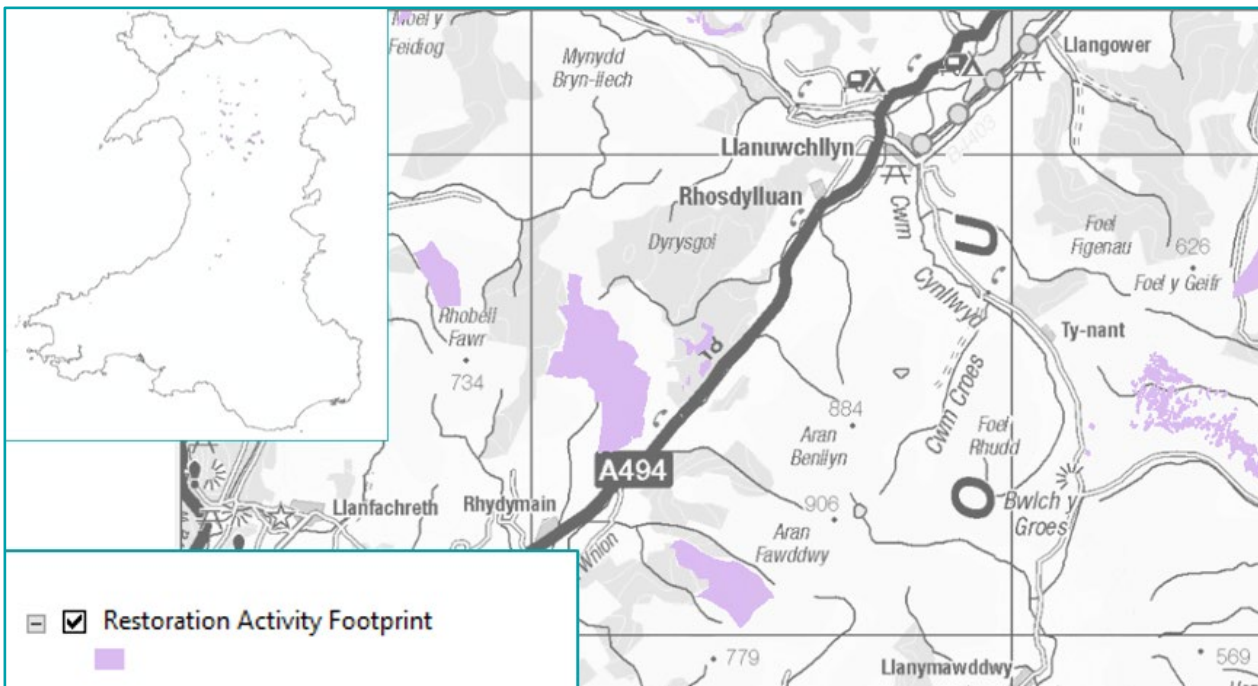

Figure 95. The restoration activity footprint is the area of peatland targeted by restoration works.
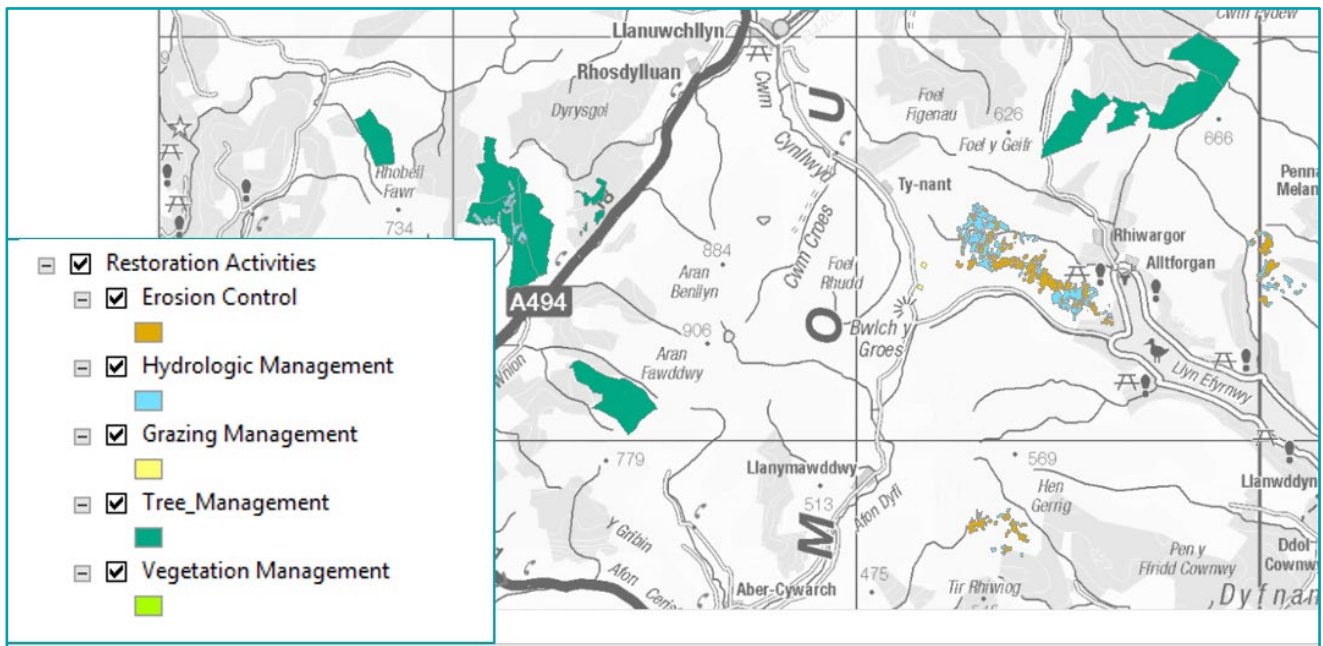
Figure 16. A map of restoration activity using different management approaches to bring peatland onto the road to recovery.

6.2.2. Welsh Peatlands Data Portal

The Welsh Peatlands Data Portal is designed as an interactive web-based mapping tool that brings together maps and associated datasets to facilitate engagement with partners undertaking or planning peatland restoration and to support NPAP's own action planning and reporting requirements. The first version of the Welsh Peatlands Data Portal (launched on 4th April 2022) showcased the 2022 Peatlands of Wales map series (6.1.2).

The Welsh Peatlands Data Portal (Welsh Peatland Data Portal (arcgis.com)) is linked to the NPAP webpage on the NRW website Natural Resources Wales / The National Peatland Action Programme and integrated with the Wales Environmental Information Portal (arcgis.com). Information about the Peatland Data Portal Map Layers on the NRW website (Natural Resources Wales / Peatland Data Portal Map Layers) provides detail on the data contained within the maps as well as links to download them from Data Map Wales (Home | DataMapWales (gov.wales)). The development of the Peatland Portal is detailed in the Year 2 Report.

The Portal is a publicly accessible platform that allows external users to interact with, view, query and export data along with information that explains the data. It will continue to be developed and updated as a persistent resource to host information about peatlands and to track restoration activity and monitoring being undertaken in Wales.

Map layers are grouped to delineate key aspects for consideration when examining a peatland for restoration potential. Next, maps of peatland action (see section 6.1.2) and outcome monitoring (see section 6.1.1) will be added.

- Restoration activity
- NPAP monitoring
- Peat distribution

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- Habitats
- Water catchments
- Operational areas
- Designations
- Topography

In 2022/23, the new 1m resolution All Wales LiDAR topography layer was added under open government licence through links to Data Map Wales. Workflows to update and maintain statutory monitoring and other layers were adapted to sync with NRW's new GIS software and repositories and Data Map Wales web services. Links to download maps and view further information were updated to point to Data Map Wales, in advance of the closure of the former Lle geospatial portal.

7. Upscaling – the future outlook for NPAP and peatland restoration in Wales

A National Peatland Action Programme (NPAP) report for its third year would not be complete without referencing the positive future outlook.

NPAP was set up as an initial five-year Programme running from 2020-2025. However, the collective efforts of Wales peatland action has been given a significant boost in ambition extending beyond 2025, with new targets and budgets reflecting a tripling in restoration activity by 2031.

The announcement, to triple the peatland restoration targets, was made by the Climate Minister for Wales, Julie James MS, on 3rd of October 2022. This followed significant national joined-up analysis in the Biodiversity Deep Dive but also reflects the earnestness with which Wales seeks to deal with its global responsibility to address both Nature and Climate emergencies.

Planning for the future expanded programme of delivery is now in progress. Aiming for full capacity by April 2025, the restoration targets will significantly ramp up and reach 1800 hectares of peatland restoration action per year by 2031.

The impact of the upscale will be seen in the hectares delivered, as well as in the monitoring, surveying and mapping, with associated training support, to reflect the reality of restoration work in Wales. Ultimately, the aim is to ensure that the people of Wales can be confident that peatland restoration is one of the most effective and cost-efficient means of addressing the Nature and Climate emergencies.

In summary, 'planning' is the key word in relation to what can be reported about upscaling the Programme in this Year 3 Report. By referencing this planned upscale, it is hoped that others who also support peatland restoration – be they partners, contractors, academics, or those planning for green careers – have a basis to plan ahead to support the accelerated peatland restoration and management delivery in Wales for 2025-2031.