

Nature and scope of monitoring of protected sites within designated landscapes

Report No: 1021

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Crynodeb gweithredol

Mae'n ofynnol i Gyfoeth Naturiol Cymru (CNC) asesu a monitro cyflwr safleoedd gwarchodedig ledled Cymru, gan gynnwys y rhai sydd o fewn Tirweddau Dynodedig, sef Parciau Cenedlaethol a Thirweddau Cenedlaethol. Mae pwyslais cynyddol ar sicrhau bod gan CNC ddata ar gyflwr safleoedd gwarchodedig, wedi'i sbarduno gan amrywiaeth o ymrwymadau polisi a deddfwriaethol, gan gynnwys y targed 30 erbyn 30. Yn ogystal, mae'n ofynnol i Dirweddau Dynodedig adrodd ar gyflwr safleoedd gwarchodedig o fewn eu ffiniau.

Mae'r adroddiad tystiolaeth hwn yn archwilio natur a chwmpas gweithgarwch monitro safleoedd gwarchodedig sy'n cael ei gynnal gan Dirweddau Dynodedig yng Nghymru, gyda'r nod o gefnogi cydweithio yn y dyfodol, gwella'r broses o rannu data, a lleihau achosion o ddyblygu ymdrechion.

Mae'r adroddiad yn seiliedig ar leoliad PhD tri mis gyda Thîm Strategaeth a Chynllunio Monitro CNC. Mae'n defnyddio data gofodol CNC a data CNC ar gyflwr safleoedd, ynghyd â thrafodaethau manwl â holl Dirweddau Dynodedig Cymru, er mwyn nodi gweithgarwch monitro cyfredol sy'n ymwneud â Safleoedd o Ddiddordeb Gwyddonol Arbennig (SoDdGA), Ardaloedd Cadwraeth Arbennig (ACA), ac Ardaloedd Gwarchodaeth Arbennig (AGA).

Yn gyfan gwbl, mae 418 o safleoedd gwarchodedig yn gorwedd yn gyfan gwbl neu'n rhannol o fewn Tirweddau Dynodedig, gan gynnwys 360 o SoDdGA, 48 o ACA, a 10 o AGA. Gyda'i gilydd, mae'r safleoedd hyn yn cynnwys 1,855 o nodweddion SoDdGA, 232 o nodweddion ACA, a 19 o nodweddion AGA. Roedd gan oddeutu hanner nodweddion y safleoedd gwarchodedig hyn gyflwr anhysbys yn nata gwaelodlin CNC a adolygwyd, gan amlygu gwerth posibl ffynonellau tystiolaeth ychwanegol.

Mae timau Tirweddau Dynodedig yn cynhyrchu ystod eang o ddata perthnasol, gan gynnwys arolygon sy'n benodol i nodweddion, monitro cynefinoedd a rhywogaethau, monitro prosiectau, a chofnodion a gesglir drwy bartneriaethau lleol a chynlluniau gwyddoniaeth dinasyddion. Fodd bynnag, mae graddau'r dystiolaeth hon a'i pherthnasedd uniongyrchol yn amrywio'n sylweddol. Yn gyffredinol, mae monitro ar ei gryfaf lle mae Tirweddau Dynodedig yn berchen ar dir neu'n ei reoli, â chytundebau rheoli, yn cyflawni prosiectau a ariennir, neu'n gweithio drwy bartneriaethau sefydledig. Mae'n fwy cyfyngedig lle nad oes gan dimau rôl uniongyrchol o ran rheoli tir, lle mae ganddynt gapasiti arbenigol cyfyngedig, neu lle mae ganddynt fynediad cyfyngedig at safleoedd gwarchodedig sydd mewn perchnogaeth breifat.

Gallai llawer o'r dystiolaeth a gynhyrchir gan Dirweddau Dynodedig gyfrannu at asesiadau o gyflwr safleoedd gwarchodedig. Fodd bynnag, cesglir y rhan fwyaf o'r data hyn drwy weithgareddau sy'n seiliedig ar brosiectau, ac felly maent wedi'u cyfyngu o ran amser a gofod. Cedwir data ar draws ystod o systemau, gan gynnwys cronfeydd data mewnol, canolfannau cofnodion amgylcheddol lleol, cynlluniau cofnodi cenedlaethol, sefydliadau partner, mecanweithiau adrodd ar grantiau, a phrosiectau unigol. Mewn sawl achos, nid oedd yn glir a oedd tystiolaeth a rannwyd yn lleol â CNC yn cyrraedd systemau adrodd

canolog yn gyson. At hynny, mae llawer o'r dystiolaeth wedi'i strwythuro o amgylch prosiectau, safleoedd, unedau rheoli, neu dirweddau cyfan, yn hytrach nag o amgylch nodweddion unigol safleoedd gwarchodedig.

Gallai CNC wneud defnydd gwell o dystiolaeth bresennol Tirweddau Dynodedig drwy egluro'r mathau a'r fformatau tystiolaeth sy'n dderbyniol, ffurfioli llifoedd data dwyffordd, defnyddio templedi safonol lle bo'n briodol, cefnogi capasiti o ran systemau gwybodaeth ddaearyddol (GIS) a rheoli data o fewn Tirweddau Dynodedig, ac alinio gwaith monitro a ariennir yn y dyfodol ag anghenion nodweddion safleoedd gwarchodedig lle bo hynny'n ymarferol. Byddai'r camau hyn yn helpu i wneud y dystiolaeth bresennol yn fwy canfyddadwy, yn fwy hygyrch, yn fwy rhyngweithredol ac yn haws ei haildefnyddio, a gallent gyfrannu at leihau nifer y safleoedd gwarchodedig sydd â chyflwr anhysbys..

Executive summary

Natural Resources Wales (NRW) is required to assess and monitor the condition of protected sites across Wales, including those within Designated Landscapes (National Parks and National Landscapes). There is increasing emphasis on ensuring that NRW holds condition data for protected sites, driven by a range of policy and legislative commitments, including the 30 by 30 target. In addition, Designated Landscapes require evidence on the condition of protected sites within their boundaries for reporting and management purposes.

This evidence report examines the nature and scope of protected site monitoring undertaken by Designated Landscapes in Wales, with the aim of supporting future collaboration, improving data sharing, and reducing duplication of effort.

The report is based on a three-month PhD placement with NRW's Monitoring Strategy and Planning Team. It draws on existing NRW spatial and condition data, alongside detailed discussions with all of Wales's Designated Landscapes, to identify current monitoring activity relating to Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), and Special Protection Areas (SPAs).

In total, 418 protected sites lie wholly or partly within Designated Landscapes, comprising 360 SSSIs, 48 SACs, and 10 SPAs. Together, these sites contain 1,855 SSSI features, 232 SAC features, and 19 SPA features. Around half of these protected-site features had an unknown condition in the baseline NRW data reviewed, highlighting the potential value of additional evidence sources.

Designated Landscape teams generate a wide range of relevant data, including feature-specific surveys, habitat and species monitoring, project monitoring, and records collected through local partnerships and citizen science schemes. However, the extent and direct relevance of this evidence varies considerably. Monitoring is generally strongest where Designated Landscapes own or manage land, hold management agreements, deliver funded projects, or work through established partnerships. It is more limited where teams lack a direct land management role, have limited specialist capacity, or have restricted access to privately owned protected sites.

Much of the evidence generated by Designated Landscapes could contribute to protected-site condition assessments. However, most of this data is collected through project-driven activities and is therefore temporally and spatially constrained. Data are held across a range of systems, including internal databases, local environmental records centres, national recording schemes, partner organisations, grant-reporting mechanisms, and individual projects. In several cases, it was unclear whether evidence shared locally with NRW consistently reached central reporting systems. Furthermore, much of the evidence is structured around projects, sites, management units, or whole landscapes, rather than individual protected-site features.

NRW could make greater use of existing Designated Landscape evidence by clarifying acceptable evidence types and formats, formalising two-way data flows, using standard templates where appropriate, supporting geographic information system (GIS) and data management capacity within Designated Landscapes, and aligning future funded

monitoring with protected-site feature needs where feasible. These actions would help make existing evidence more findable, accessible, interoperable, and reusable, and could contribute to reducing the number of protected sites with unknown condition.

Introduction

This briefing note presents the findings and recommendations resulting from a 3 month project undertaken to examine the current nature and extent of monitoring of protected sites and features across the designated landscapes in Wales. This project was undertaken as part of a PhD placement with the Monitoring Strategy and Planning team at NRW.

The author would like to thank all those within the designated landscapes for their time in sharing information and data, and those within both the Monitoring Strategy and Planning Team and elsewhere within NRW for their time and help in completing this project.

Designated landscapes in Wales

There are two types of designated landscapes in Wales: National Parks (NP) and National Landscapes (NL) (formerly Areas of Outstanding Natural Beauty, renamed National Landscapes in 2024), which are designated under the National Parks and Access to the Countryside Act 1949 and the Countryside and Rights of Way Act 2000. These designations are recognised internationally as IUCN category V protected areas for their unique ecological, biological, cultural and scenic properties (Welsh Government, 2025). Together NP and NL's cover around 24.8% of Wales (Natural Resources Wales, 2024a). These are listed in Table 1 and shown in Figure 1. Individual National Park Authorities manage these designated landscapes for national parks, and National Landscapes are managed by the relevant local authority(s) through dedicated teams.

While Designated Landscapes are an important focus for reaching Wales's commitment to protect 30% of its Land and Sea by 2030 (30by30), not all areas within these landscapes are managed explicitly for nature, meaning that their full extent cannot automatically contribute to the 30% target. (Welsh Government, 2025). The Biodiversity Deep Dive identified a specific need to unlock the potential of Designated Landscapes to deliver more for nature and 30 by 30 (Welsh Government, 2022). This included a need for prioritised nature-recovery action plans, better evidence and mapping tools, stronger capacity, and more effective monitoring of high-nature-value areas (Welsh Government, 2022). The

Designated Landscapes Expert Group subsequently emphasised three issues directly relevant to this briefing note for designated landscapes:

- Designated Landscapes can establish baseline condition, support objective-setting and target monitoring activity;
- Build stronger geographic information system capability
- Adopt a 'Team Wales' approach to shared governance and delivery (Berry et al., 2024).

Table 1 – Designated Landscapes in Wales

Designated landscape	Area
Eryri National Park	2142 km ²
Bannau Brycheiniog National Park	1344 km ²
Pembrokeshire Coast National Park	629 km ²
Anglesey National Landscape	221 km ²
Clwydian Range and Dee Valley National Landscape	390 km ²
Gower National Landscape	183 km ²
Llŷn National Landscape	155 km ²
Wye Valley National Landscape	90 km ² (Welsh portion only)



**Cyfoeth
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Wales**



**Cyfoeth Naturiol Cymru
Natural Resources Wales**

All National Parks and National Landscapes in Wales

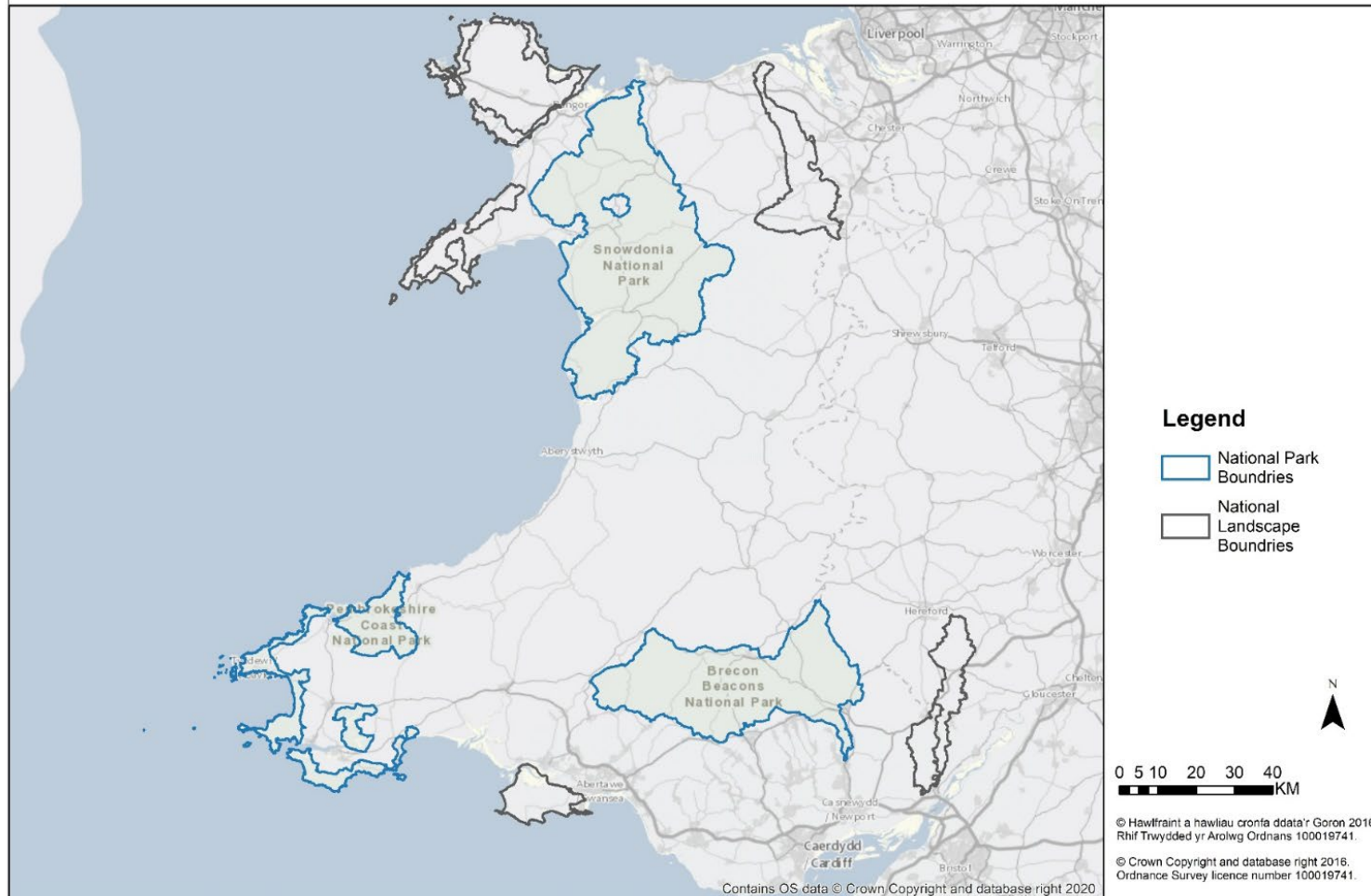


Figure 1 - Map showing all National Parks and National Landscapes in Wales

Protected sites within designated landscapes in Wales

Across Wales, sites of special scientific interest (SSSI), Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are designated to receive targeted statutory protection for their biological, ecological and geological value.(Edwards & York, 2025; Natural Resources Wales, 2026b). Many of these sites and areas are within or intersect with designated landscapes. In addition, several sites in Wales are designated under the Ramsar Convention, and, as these are also underpinned by SSSIs, they are not considered separately in this briefing note.

SSSI form the fundamental units of the terrestrial and coastal protected area network in Great Britain (Bainbridge et al., 2013) and they are designed to safeguard the diversity and geographic range of the best examples of near-natural and semi-natural habitats alongside specific flora, fauna, and geological or physiographical features (Bainbridge et al., 2013). SSSIs are primarily established under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981.

Special Areas of Conservation (SAC's) and Special Protection Areas (SPA's) represent sites of international importance and represent the highest tier of nature conservation (Bainbridge et al., 2013). Historically, the Natura 2000 network under EU legislation comprises terrestrial and freshwater SACs and SPAs, which now form the UK's national site network under the Habitat and Species Regulations 2017. Special Areas of Conservation are sites selected to maintain or restore specific natural habitats and species of wild fauna and flora (other than birds) that are considered most in need of conservation (McLeod, et al., 2009) whereas Special Protection Areas are focused on the conservation of rare, vulnerable and regularly occurring migratory bird species (Bainbridge et al., 2013).

SSSI, SAC and SPA site designations are underpinned by the specific features that form the conservation/earth science interest (Bainbridge et al., 2013; McLeod, et al., 2009). For SSSI, these are the specific flora, fauna, geological, geomorphological or physiographical elements that make the land of special scientific interest (Bainbridge

et al., 2013). For SAC and SPA, the features are the specific protected habitats and species that justify the site's legal classification (Welsh Government, 2025). These features (“qualifying features”, “interest features” or “protected features”) should form the core focus of site management and monitoring (Singleton et al., 2024).

The Environment (Wales) Act 2016 places a statutory duty (Section 6) on all public authorities in Wales to maintain and enhance biodiversity and promote the resilience of ecosystems (Natural Resources Wales, 2020). Protected sites are also relied upon heavily to deliver broader global and national conservation commitments. They are a vital part of the Welsh Government's commitment to the Kunming-Montreal Global Biodiversity Framework Target 3 (commonly known as 30by30), which aims to effectively conserve and manage at least 30% of land, freshwater, and sea by 2030 (Welsh Government, 2025).

Monitoring of protected sites in Wales

NRW monitors the condition of the designated features using a unified set of common standards agreed upon across the UK statutory nature conservation bodies (Bainbridge et al., 2013; Welsh Government, 2025). The result of this monitoring is an assessment of whether these individual features fall into a range of condition categories particularly whether they are in a “favourable”, “unfavourable” or “destroyed” condition, which is then used to measure progress towards conservation outcomes (Singleton et al., 2024; Welsh Government, 2025). The original Common Standards Monitoring guidance also distinguishes monitoring from general surveillance. Monitoring tests observations against a defined objective or standard, whereas surveillance records repeated observations over time without necessarily judging whether an objective has been met (JNCC, 2004). The 2022 JNCC statement on Common Standards Monitoring retains that feature-based framework, but places greater emphasis on Common Standards Monitoring as an interpretative framework rather than only a field methodology (JNCC, 2022).

However, comprehensive data collection remains a significant challenge; the 2020 Protected sites baseline assessment established that only 20% of terrestrial and freshwater features in Wales were in a favourable condition, and 30% were

unfavourable, while the condition of the remaining 50% remained unknown (Lloyd, 2025).

Partly to address these evidence gaps and to fulfil commitments such as the 30by30 target, the monitoring framework in Wales is evolving to incorporate the Management Effectiveness of Protected and Conserved areas tool (MEPCA) (Lloyd, 2025; Welsh Government, 2025). Developed by JNCC, the MEPCA tool is designed to track how effectively protected areas are actually managed for biodiversity (Singleton et al., 2024).

For a protected site to count as effectively managed under this framework, it must be demonstrated that the site's features are either in “favourable” or “unfavourable recovering” condition (Welsh Government, 2025) with this assessment based on a combination of direct field based surveys, remote sensing and robust expert judgement (Lloyd, 2025). The implementation of these monitoring actions forms an integral part of an adaptive management cycle. Ultimately, the data gathered from this monitoring feeds into broader national assessments, particularly the State of Natural Resources Reports (Natural Resources Wales, 2020; Welsh Government, 2025).

Designated landscapes' role in monitoring protected sites

Designated landscapes carry out a range of monitoring activities across the designated area, including on SSSIs, SACs, and SPAs (for example, see (Brecon Beacons National Park, 2019) (LUC, 2022)). Much of this monitoring is carried out in support of management planning and to feed into the State of the Park or State of the National Landscape reports (e.g. Swansea Council (2025)). Much of the current monitoring being conducted within designated landscapes is conducted in partnership with the third sector, citizen science programs and landowners. This partnership is recognised as key to the overall effective management of the designated landscapes (Singleton et al., 2024; Welsh Government, 2025)

Challenges and opportunities

Both NRW and the designated landscape authorities need robust evidence to fulfil their respective statutory obligations and strategic objectives. NRW has a remit to monitor and report on the condition of key interest features across protected sites to track Wales's progress towards the 30by30 target (Welsh Government, 2025).

Simultaneously, Designated Landscapes require monitoring evidence to produce state-of-the-park/landscape reports and to develop effective five-year management plans (Natural Resources Wales, 2026b).

A primary challenge in delivering these shared goals is the scale of the current evidence gap and the overall high number of designated sites and features within designated landscapes. The 2020 protected sites baseline assessment established that the condition of 50% of protected features in Wales remains unknown to NRW, while only 20% were confirmed to be in a favourable condition (Lloyd, 2025). Closing this knowledge gap is essential to determine whether 30% of Wales is genuinely under effective management for biodiversity (Lloyd, 2025). However, there are acknowledged capacity constraints within both NRW and designated landscapes teams (Interim Environmental Protection Assessor for Wales, 2026) and a lack of coordination and understanding of monitoring activities undertaken by different organisations increases inefficiencies and raises the risk of fragmented data collection, duplicated work and a failure to adopt standardized frameworks (Lloyd, 2025; Singleton et al., 2024).

As a first step towards resolving this challenge, this report seeks to set out the current nature and scale of monitoring activities being conducted by the designated landscape in Wales. By establishing a clear baseline of current monitoring efforts, this report will provide NRW with some of the required information to identify synergies, avoid future inefficiencies in data collection and facilitate future discussions towards the development of a coordinated monitoring program for protected sites within designated landscapes.

Methodology

The relevant spatial layers for National Park and National Landscapes, SSSI sites, SAC and SPA sites were then downloaded from Data Map Wales (Natural Resources Wales, 2022b, 2022a, 2024b, 2026a) and imported into a GIS system to identify which protected sites were within, and intersecting the boundaries of each designated landscape. For these protected sites, the list of features and the current condition was extracted from the relevant layer (Natural Resources Wales, 2021). This was then added to a spreadsheet and used as the basis for initial discussions with key contacts in each designated landscape.

Several GIS ownership layers for certain strategic landowners across Wales (Table 2; Appendix A) were available, and so these were used to identify which of these strategic landowners owned protected sites within each designated landscape. While it was not possible to pursue this avenue of investigation within the time constraints of this project, it is reported to illustrate potential future areas of investigation and potential collaboration opportunities.

Discussions were then held via Teams with lead officers, lead ecologists, and project officers from each designated landscape to understand the current nature and scope of their monitoring activities, focusing specifically on the identified protected sites within the designated landscape boundary. Each designated landscape provided a range of documents and plans to support the discussions; these were then reviewed, and relevant monitoring activities were extracted and cross-referenced to the list of protected sites within that landscape.

There were significant limitations to the data available within the scope and timescale of this project. In some cases, relevant information could not be readily retrieved, or was not structured in a way that allowed robust cross-referencing to individual protected sites, which reflects the “landscape” nature of designated landscape operations and duties as the data was structured primarily around landscape, project or management-unit needs rather than individual protected-sites.

Results

In total, 418 protected sites lay wholly or partly within a Designated Landscape, and 705 lay entirely outside (Figure 2). The sites overlapping Designated Landscapes comprised 360 SSSIs, 48 SACs and 10 SPAs; of these, 216 SSSIs, 12 SACs and one SPA fell wholly within a boundary. Together, the protected sites within and intersecting Designated Landscapes contained 1,855 SSSI features, 232 SAC features and 19 SPA features.

The condition of these features was largely unknown. At the 2021 baseline, around half of the protected-site features within and intersecting Designated Landscapes had an unknown condition (1,054 features), while 569 were unfavourable, 469 were favourable and 12 were destroyed. This distribution broadly mirrors the national picture and shows why additional evidence sources are valuable for condition reporting.

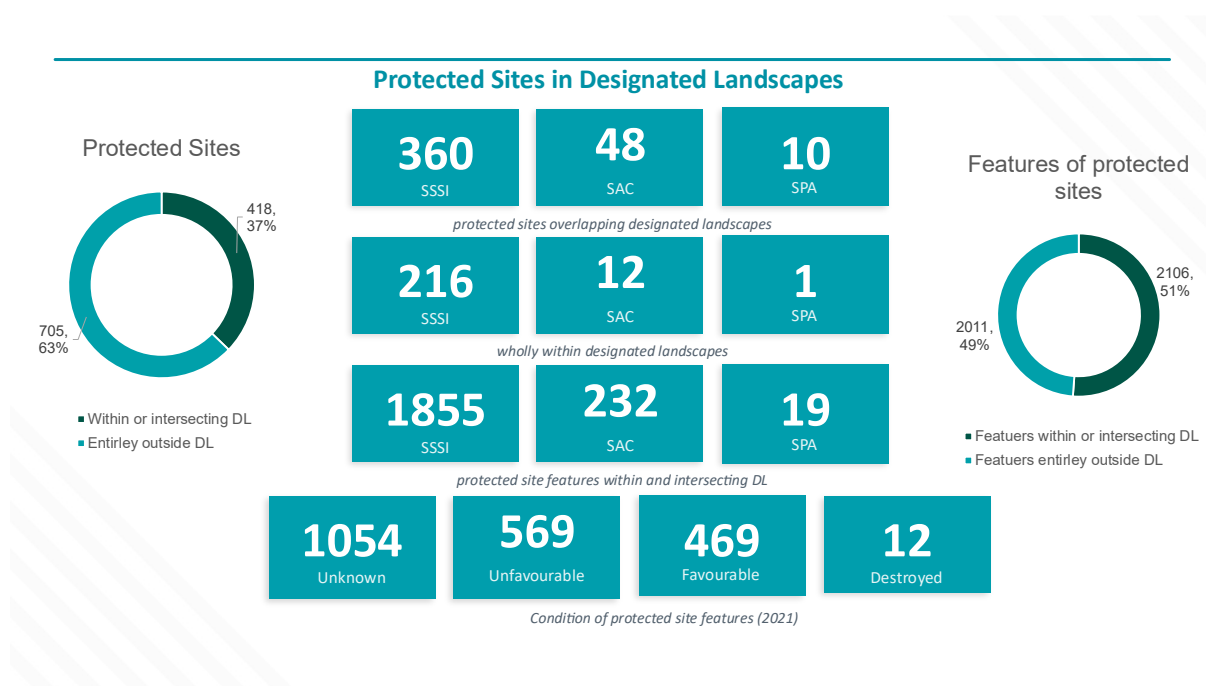


Figure 2 – Summary of protected sites in designated landscapes

The extent and type of monitoring undertaken by Designated Landscape teams varied considerably, reflecting differences in remit, land-management role, funding, partnerships and available capacity. The strongest links to protected-site features occurred where teams owned land, held management agreements or delivered

funded projects. There was generally less direct monitoring where teams had no land-management role and limited access to information about privately owned protected sites.

The review identified three broad categories of evidence. First, some activities were directly relevant to protected-site features, such as the chough (*Pyrrhocorax pyrrhocorax*) monitoring in the Pembrokeshire Coast National Park and the grassland-community monitoring in the Clwydian Range and Dee Valley. Second, some activities provided contextual evidence on pressures and management, including visitor monitoring, fixed-point photography, dark-sky monitoring, and Landscape Character Assessment. Third, some monitoring was valuable for broader nature recovery but lacked a clear link to a protected feature.

Data storage and data-flow arrangements varied between landscapes. Records were variously held in internal geographic information systems, submitted to local environmental records centres, or passed to national recording schemes and funders. In several cases, Designated Landscape teams were unsure whether evidence shared with local NRW officers consistently reached central reporting systems was not always clear, and identifying the relevant data pathways within NRW proved difficult within the scope of this project.

National parks

Eryri National Park

Eryri National Park in northwest Wales (Figure 1) is the largest national park in the country covering approximately 2,130 km². The park is characterised by a complex assemblage of mountainous terrain, glacial valleys, upland and extensive river catchments (Figure 3) and is internationally significant for its geology, biodiversity and cultural landscape (Snowdonia National Park Authority, 2020). Eryri provides vital refuges for rare arctic-alpine plants alongside extensive blanket bogs and

internationally important Celtic rainforests (Natural Resources Wales, 2026b).

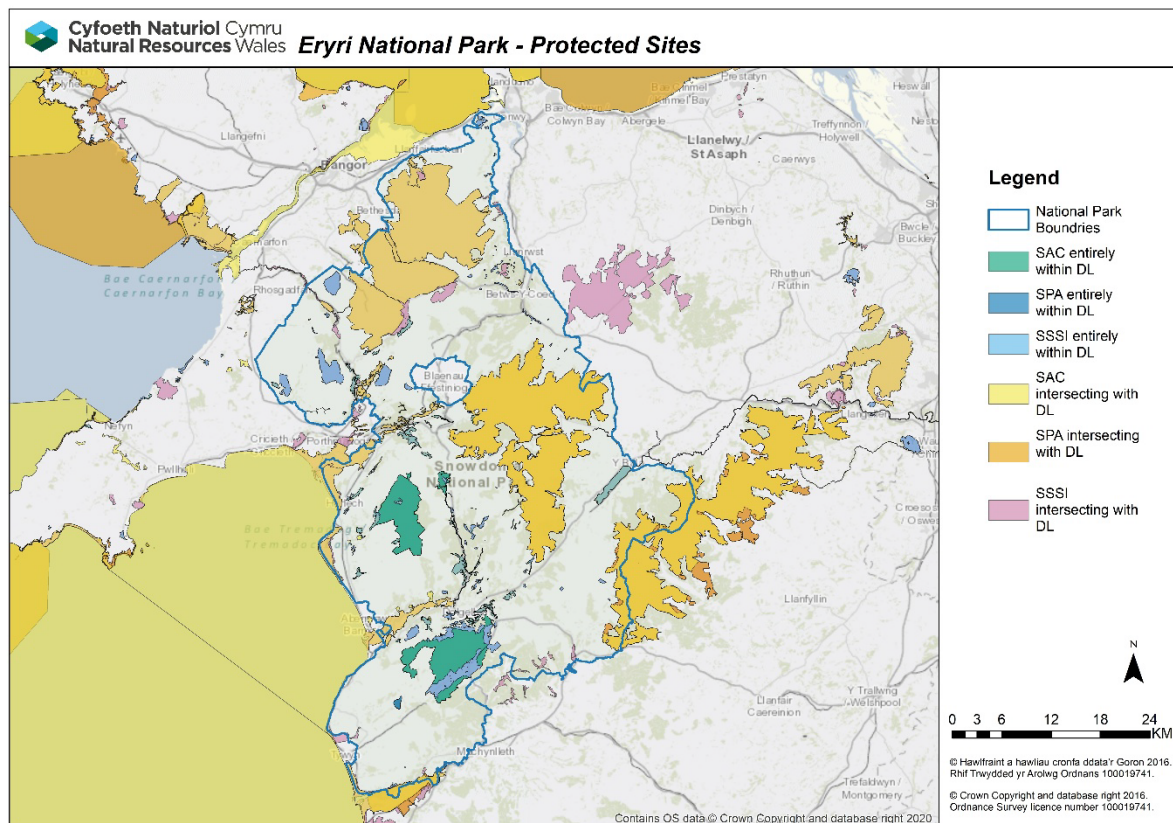


Figure 3 - Eryri National Park Protected Sites

The national park contains 113 SSSIs, 15 SACs and four SPAs. The National Park Authority owns approximately 0.45% of the park area, which includes two protected sites, both woodland, where monitoring is carried out on a professional-opinion basis as part of the development and review of site management plans. Beyond its own land, the Authority's protected-site monitoring is delivered mainly through contributions to national schemes and through project-based work.

The Authority contributes to several national schemes that cover features of protected sites. Staff take part in the National Bat Monitoring Programme, counting lesser horseshoe bats (*Rhinolophus hipposideros*) at hibernation and maternity roosts within sites such as the Meirionnydd Oakwoods and Bat Sites SAC and Gwydyr Forest Mines SAC. They also support the national scarce and rare breeding bird surveys for hen harrier (*Circus cyaneus*) and merlin (*Falco columbarius*) on the Migneint-Arenig-Dduallt and Berwyn SPAs, and coordinate local input to the National Otter Survey, which is relevant to otter (*Lutra lutra*) as a mobile SAC feature. In addition, the Authority recently commissioned and part-funded a glutinous snail

(*Myxas glutinosa*) survey at Llyn Tegid SSSI, a designated feature that was historically surveyed by NRW. Data from these activities are submitted through the relevant national schemes or records centres.

Project-based work makes up the majority of the Authority's monitoring, and some of it is directly relevant to protected-site condition. The LIFE Celtic Rainforest project commissioned baseline condition and common-standards-style surveys of the oak and alluvial woodland features of the Meirionnydd Oakwoods and Bat Sites SAC before intervention, and these are now being repeated following woodland management. The LIFE Dee River project included substantial pre- and post-intervention monitoring linked to freshwater pearl mussel (*Margaritifera margaritifera*) and Atlantic salmon (*Salmo salar*) on the Afon Eden and River Dee SACs, while curlew (*Numenius arquata*) breeding numbers and productivity are monitored through the Curlew LIFE and After-LIFE work. The Authority also contributes to National Peatland Action Programme project monitoring, which maps restoration and condition evidence. In the south of the park, annual marsh fritillary (*Euphydryas aurinia*) larval-web counts are carried out across a suite of Meirionnydd sites, with records entered into Cofnod.

The Authority also produces wider contextual evidence that is not tied directly to protected-site features. This includes trail people counters, fixed-point photography linked to Sustainable Management Scheme projects (recording landscape change after interventions such as hedge planting and tree establishment), dark-sky monitoring associated with the park's Dark Sky Reserve, and emerging dark ecological network work. The Authority further contributes to wood warbler (*Phylloscopus sibilatrix*) surveys with the National Trust and to citizen-science nutrient monitoring linked to the Pen Llŷn a'r Sarnau SAC.

Data flows are mixed. Most non-project biological records are intended for Cofnod (the local environmental records center), while project data may remain with project leads or partner organisations. The Authority has well-developed GIS capability, and sharing data with NRW on request would not normally present a difficulty.

As with other designated landscapes, the Authority noted several constraints. Project funding does not always include monitoring, baseline data are often lacking where

interventions take place, and monitoring tends to stop when short-term projects end. Mapping of management activity is currently stronger than outcome monitoring, records are held across different teams rather than in a central monitoring database, and the Authority noted that losing access to current NRW condition information limits its ability to align its work with protected-site needs.

The Authority also raised a number of more strategic points. It described protected-site condition as a genuinely useful metric rather than a reporting formality, but reported continuing difficulty in obtaining timely condition-assessment data. For State of the Park reporting, headline condition figures are useful, whereas management planning and the Nature Recovery Action Plan require the underlying findings and habitat-level detail. Strategic data sharing with partners is usually formalised through memoranda of understanding or data-sharing agreements, particularly where evidence is collected for strategic reporting. The limits of current access were illustrated by a recent biodiversity evidence exercise for the State of the Park, which drew on Cofnod, NRW and partner data but could not obtain substantial NRW-held data within the contractor's timescale.

Data sharing with major landowners and through larger partnership schemes was described as generally proactive, with an expectation that information should be shared where it is needed.

Pembrokeshire Coast National Park

Pembrokeshire Coast National Park is the only national park in the UK primarily designated for its coastal landscape (Figure 1). Covering around 620 km², the park is discontinuous along a strip of coastline, including cliffs, sandy beaches, islands, estuaries, and inland hills (Figure 4). It supports a range of internationally important seabird colonies on islands such as Skomer and Grassholm, and serves as a crucial habitat for marine mammals, including significant grey seal (*Halichoerus grypus*) pupping and haul-out sites (Natural Resources Wales, 2026b). The diverse coastal and terrestrial habitats include extensive limestone grasslands (Pembrokeshire Coast National Park Authority, 2019).

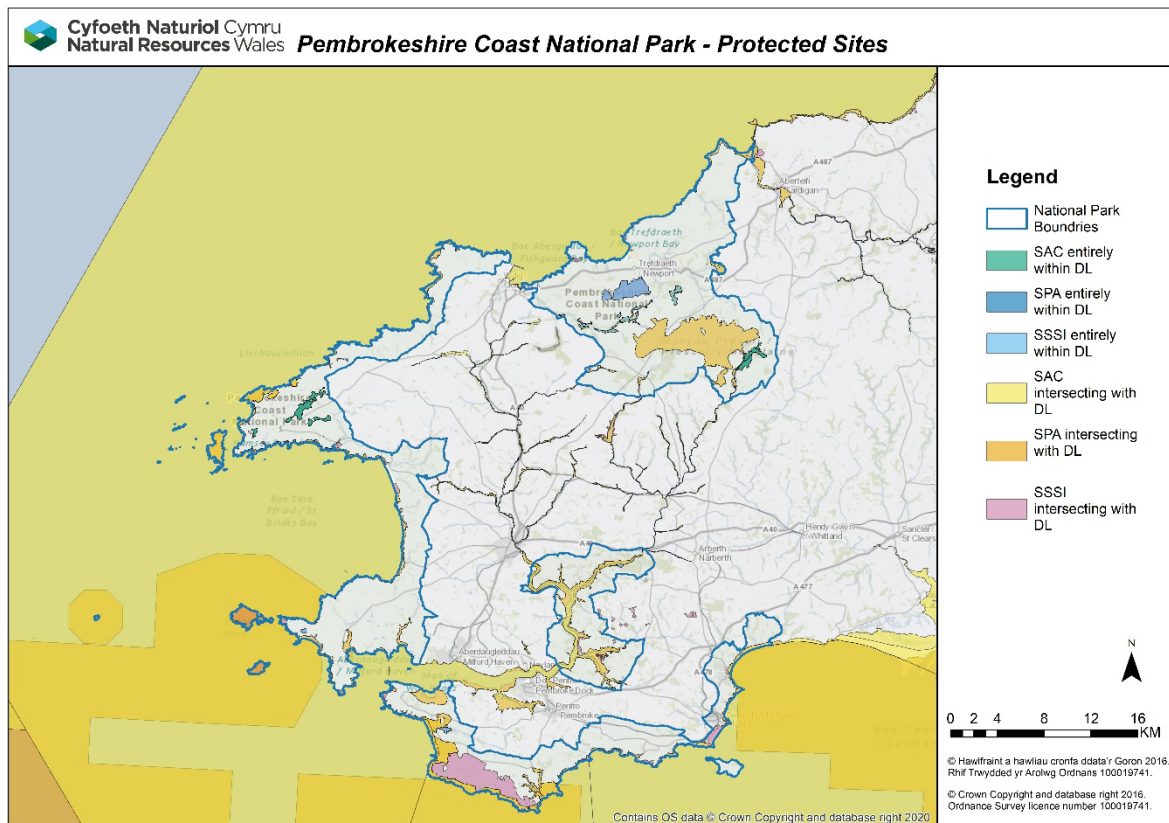


Figure 4 - Pembrokeshire Coast National Park Protected Sites

The National Park contains a total of 70 designated sites (58 SSSIs, 9 SACs, and 3 SPAs). Across these sites, there are 400 SSSI features, 48 SAC features, and 4 SPA features. Two of the SAC sites also overlap with the Gower National Landscape. Unlike some of the other designated landscapes, the Pembrokeshire Coast NPA owns around 490 hectares of land, some of which are designated as SSSIs or SAC's. Additionally, the NPA works extensively with private landowners holding management agreements covering approximately 3,000 hectares.

The Pembrokeshire coast NP team does not have an overarching monitoring strategy, nor dedicated monitoring resources; instead, their monitoring is largely audit-based to demonstrate that conservation spending, project and grant money is delivering for nature. For sites they own or manage via agreements, the NPA team conducts informal "professional opinion" compliance monitoring using broad RAG ratings (red, amber, green) to assess whether management goals are being met or if interventions are needed. This system works at a site level rather than reporting on individual features.

The NPA is actively involved in specific monitoring activities directly relevant to protected sites and features. Most notably, they help coordinate a comprehensive monitoring program for the chough (*Pyrrhonorax pyrrhonorax*) population within the park (an SPA feature) using trained volunteers and a standardised survey method. The NPA also has a range embedded with the Ministry of Defence (a major landowner within the park), which conducts both chough (*Pyrrhonorax pyrrhonorax*) and seal monitoring (a SAC feature) on MOD land. However, the route by which data from these activities are shared and incorporated into wider reporting was not clear from the information reviewed. The NAP is also involved in a small number of national/regional citizen science initiatives, such as the SWEPT water quality project.

Beyond chough (*Pyrrhonorax pyrrhonorax*) and seal monitoring, the NPA leads a broader programme of feature-level SSSI monitoring delivered through several projects and programmes, including the Nature Networks Fund. This work aims to increase the number and skills of volunteers while improving the condition of SSSI habitats and restoring the habitats that connect them. Through it, volunteers have been trained to apply the SSSI monitoring protocols for the oak woodland and wet woodland features of the SSSIs that make up the North Pembrokeshire Woodlands SAC, and both features have now been monitored across all seven constituent SSSIs. A similar volunteer-based approach underpins dormouse (*Muscardinus avellanarius*) monitoring at Pengelli Forest SSSI and Ty Canol SSSI within the same SAC; this has relied on a single volunteer for several years, although Nature Networks Fund support is now enabling a second volunteer to be trained.

The NPA team also coordinates some monitoring work, for example, recent marsh fritillary (*Euphydryas aurinia*) surveys that brought together volunteers and staff from NRW and Pembrokeshire County Council to survey marsh fritillaries across SSSIs and non-designated sites, to check 41 sites between the partners and share the results with NRW. The aim of this project was to coordinate surveys across a large number of sites, as otherwise the survey effort is spatially uneven (with the most accessible sites and those with the largest populations surveyed more frequently).

At the Newport Cliffs SSSI, a volunteer has been trained to identify and map individual clumps of perennial centaury (*Centaureum portense*), a designated feature of the site, with the resulting GPS records shared with the local NRW officer and the

survey is intended to be repeated annually. The NPA has also begun trialling the newly developed SSSI monitoring protocols for Sustainable Farming Scheme sites, with a view to using them with volunteers on SSSIs where the team is carrying out positive management. This would help to establish whether that management is having the intended effect and could support progress towards Naturfa status. The team also noted that SSSI monitoring is valued by volunteers in its own right, particularly by students and recent graduates seeking conservation careers, who see it as a recognised standard and a useful addition to their experience.

The data from the DL's monitoring activity is primarily stored electronically within the NPA. The authority has an increasingly comprehensive GIS-based database of sites, linked to their RAG monitoring, and is working towards linking it to existing and historic site records. The NPA is also increasingly using UAV surveys, primarily for historic environment and recreational impact surveys and has a well-developed system for collecting, storing and accessing this spatial data. There is potential to expand this further into biodiversity monitoring, although staff time was noted as a constraint.

Regarding the sharing of data the NP team highlighted that much of the information they collect contains sensitive personal information, such as land ownership and commercial details, which means data sharing would require appropriate governance, permissions and data-sharing arrangements. While specific reports are sent to individual NRW officers, there is limited visibility into whether this data reaches central NRW reporting and, if so, whether it is acknowledged as generated by the NPA. The NP team suggested that, for ease of processing and to better align with the data and information that they currently hold, future monitoring requests from NRW should align with the site-level formats that are needed and used by the NPA rather than focusing purely on individual features. Finally, the NPA team emphasised that staff capacity and resources remain the most significant barriers to collecting and processing further data from protected sites.

Bannau Brycheiniog National Park

Bannau Brycheiniog National Park covers around 1344 km² across south and mid Wales (Figure 1). The park includes the Brecon Beacons, the Black Mountains, and

upland plateau landscapes alongside extensive river systems, cave networks, and waterfall complexes (Bannau Brycheiniog National Park Authority, 2023), including a UNESCO Geopark (Natural Resources Wales, 2026b) (Figure 5). BBNPA contains a large number of protected sites, including significant upland mountainous sites, woodland, and limestone pavement sites. Around 56% of the SAC features and 34% of the SSSI features are reported as being in an unfavourable condition.

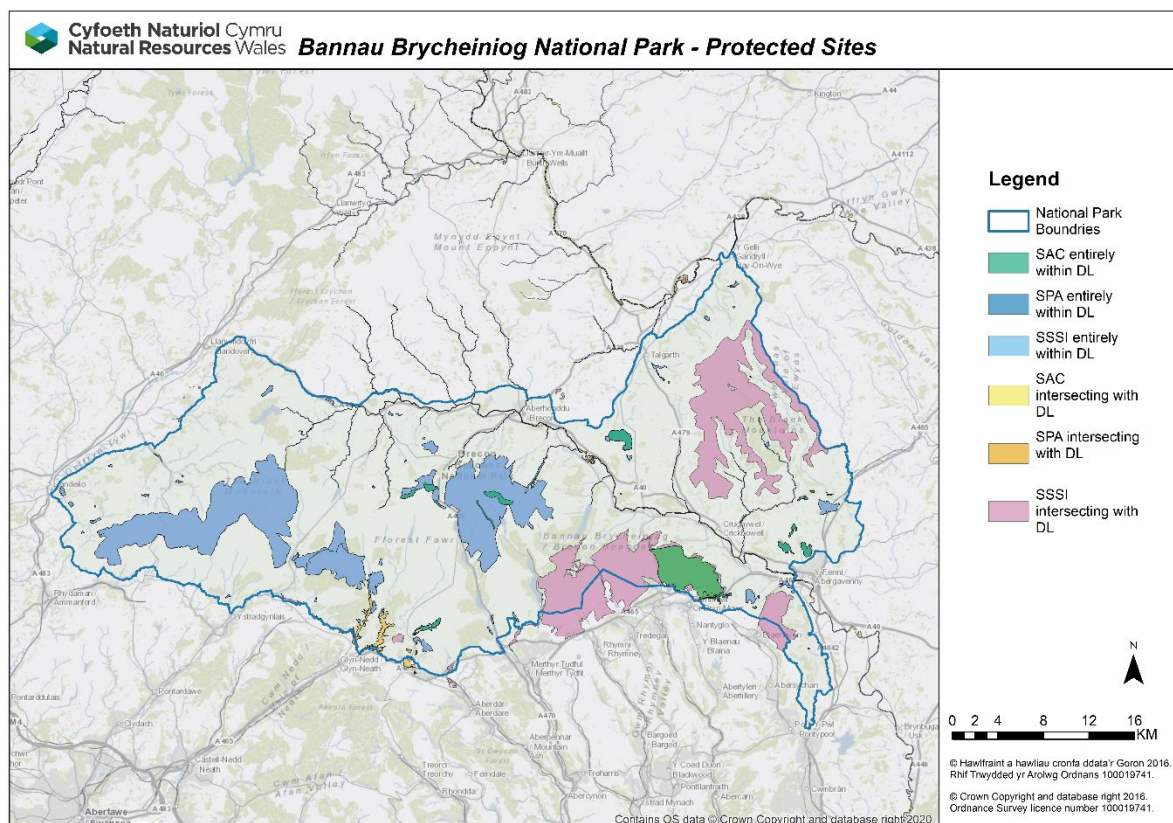


Figure 5 - Bannau Brycheiniog

The BBNPA direct monitoring activities of protected sites are conducted on a “as needed basis” specifically targeted at SSSI and SAC’s that the NPA owns or manages such as parts of Mynydd Du (Black Mountains), Waterfall Country, and the southern shore of Llangorse Lake. At Mynydd Du, which is the largest SSSI under BBNPA ownership, the Authority has undertaken post-fire heather moorland recovery monitoring using transects following a severe wildfire in 2016. The Authority also attempted a "phase 1.5" habitat-change review for this site to compare a late-1990s baseline survey with modern remote sensing and field-truthing. However, this project remains an incomplete draft because the GIS support available at the time ended before the habitat polygons could be fully verified.

BBNPA has and continues to carry out several landscape-scale and habitat-specific monitoring activities that, while not directly targeted at protected site conditions monitoring, produce some highly relevant and valuable monitoring data. The Authority actively maps peatland distribution and condition using the Welsh Peatland Project's rapid assessment protocol, with trained volunteers successfully ground-truthing approximately 1,200 plots across the park. Furthermore, hydrological dip-well monitoring has been installed at Illtyd Pools (Trwyn Mawr) to track water depth and inform restoration efforts. At Llangorse Lake, sporadic species and site monitoring is conducted by various partners, yielding records on bird ringing, water vole (*Arvicola amphibius*) surveys, tracking invasive non-native species (INNS), and reedbed management.

The Authority is also finalising a comprehensive Landscape Character Assessment covering roughly 254 polygons, which evaluates ecological, cultural, and heritage conditions to provide a baseline framework for future management planning and assessment across the Authority's core themes and duties. A further project that the NPA has at the conceptual stage is a "Vital Signs" monitoring framework designed to sample environmental variables and taxonomic groups across a series of 1-kilometre grid squares has the potential to produce valuable data on protected sites, especially if the protected site features were considered in the framework design; however this remains a long term ambition and is currently not funded or in active development.

Data collection and sharing practices at BBNPA rely heavily on internal GIS systems, local external partnerships, and the LERC. Some of the most comprehensive data held by the park from a monitoring perspective are the peatland condition and restoration data sets, because NRW has produced standardised reporting templates for the NPAP. The NPA noted that this helped them standardise data capture across different funding streams and projects. Other than NPAP data, which is routinely returned to NRW for reporting requirements, much other project-based monitoring data remains internal to the NPA unless specifically requested or required by project funders or partners.

The NP team identified staff capacity and wider resource limitations as the primary barriers to conducting more systematic protected site monitoring, despite a wish to do so in some respects, while also noting that it is primarily an NRW statutory responsibility and not one of the core duties that they are funded and resourced to conduct. Along this avenue, the NPA team emphasised the critical need to receive up-to-date condition assessments from NRW to inform statutory management plans and 30x30 targets, and additionally discussed a wider perspective: they would consider a more comprehensive management and monitoring strategy, not tied to specific time-limited projects, as a beneficial approach they would welcome.

National Landscapes

Anglesey National Landscape

The Anglesey National Park covers much of the coastline and lowland interior of the Isle of Anglesey (Figure 1, Figure 6) and contains important habitats for coastal and wetland species, varied coastal geology, and shallow maritime habitats within a historic agricultural land-use system (Isle of Anglesey County Council, 2023).

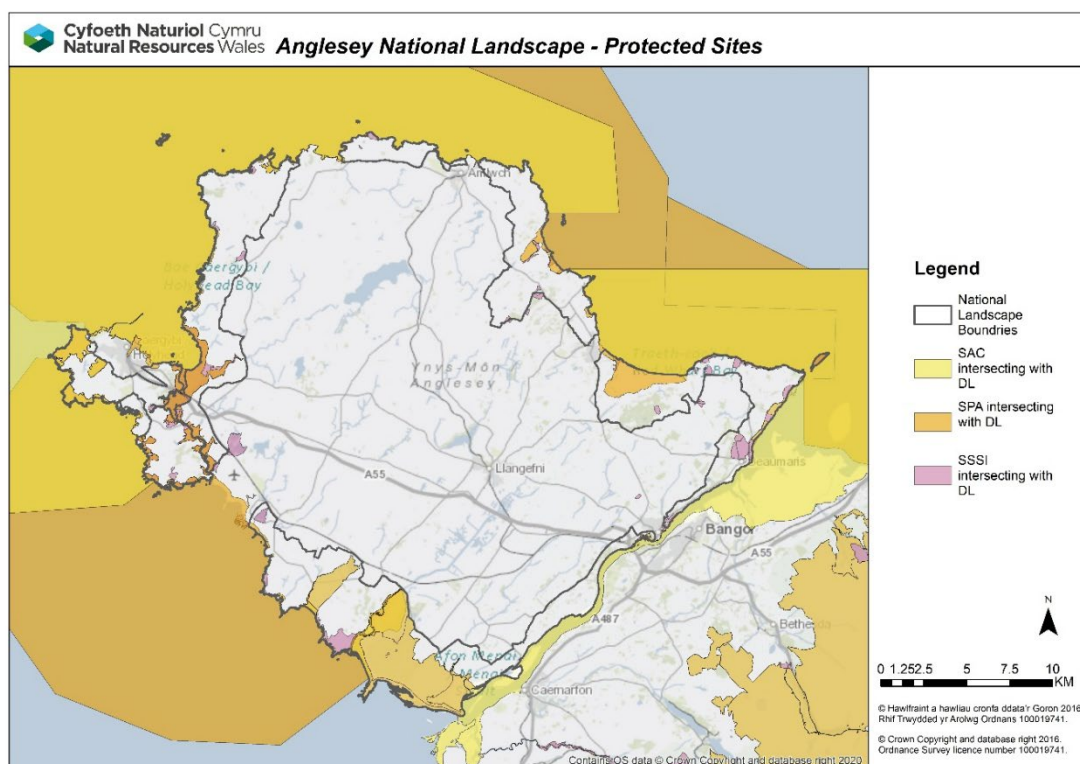


Figure 6 – Anglesey National Landscape protected sites

The lowland peatlands are important strongholds for rare species, and the diverse geodiversity of the landscape is designated as a UNESCO Global Geopark (Natural Resources Wales, 2026b). The landscape contains a number of protected sites, including 6 SACs, 3 SPAs, and 32 SSIs. Proportions of 18 of these protected sites are owned by Natural Resources Wales (Forest), managing 1,833 hectares, the RSPB, managing 910 hectares, and the National Trust, managing 165 hectares.

The national landscape / local authority directly owns and manages sites containing protected features, such as Breakwater Country Park, which includes an SSSI and forms part of the Glannau Ynys Gybi / Holy Island SAC area. Additionally, Holyhead Mountain / Holy Island SAC and SPA land is owned by the council but leased to the RSPB. The NL team does not carry out routine monitoring on protected sites they do not own or manage; they view this primarily as NRW's role, given the number of SSSIs, SACs and SPAs across the island and the capacity available within the team.

On the sites they own and manage, the National Landscape team conducts direct monitoring and site work, including heathland restoration, bracken control, and management of coastal heath and wildflower meadows. They utilise specific heathland and coastal surveys, alongside aerial photographs, drone footage, and fixed-point photography, to monitor changes over time. On sites they do not own, they are aware of monitoring where it connects to joint funding or projects, such as the RSPB's work at South Stack and the National Trust's work on heathlands and meadows.

The Anglesey team also undertakes wider landscape-scale monitoring projects that produce relevant environmental data. This includes invasive non-native species (INNS) work, visitor monitoring, and dark skies monitoring. Data collected by the Anglesey National Landscape is stored primarily in GIS and could, in general, be easily compiled, compressed, and shared with NRW if a specific request were made.

Currently, data is shared with the Local Environmental Records Centre (Cofnod) through a service level agreement, and project data is reported to the Welsh Government and to NRW via a grants officer; However, the team noted that additional data could potentially be submitted to Cofnod if further processing and data-management capacity were available. Visibility of third-party data (such as that

from the National Trust) is generally dependent on grant conditions and end-of-project reporting requirements. The main barriers preventing the National Landscape from conducting more proactive monitoring are time, staff capacity, and the high volume of concurrently running grants and projects. The Anglesey team highlighted significant opportunities for closer joint working with NRW, improved information flow from NRW, and greater involvement of National Landscape staff in recording on relevant protected sites.

Llyn National Landscape

The Llyn national landscape in northwest Wales (Figure 1) It covers around ¼ of the Llyn Peninsula in northwest Wales, extending westwards into the Irish Sea (Figure 7). It is notable for maintaining a mosaic of small-scale agricultural landscapes alongside coastal heathland and grassland habitats, with the peninsula's coastal cliffs and coastal fringes being important habitats for invertebrates and birds (Natural Resources Wales, 2026b).

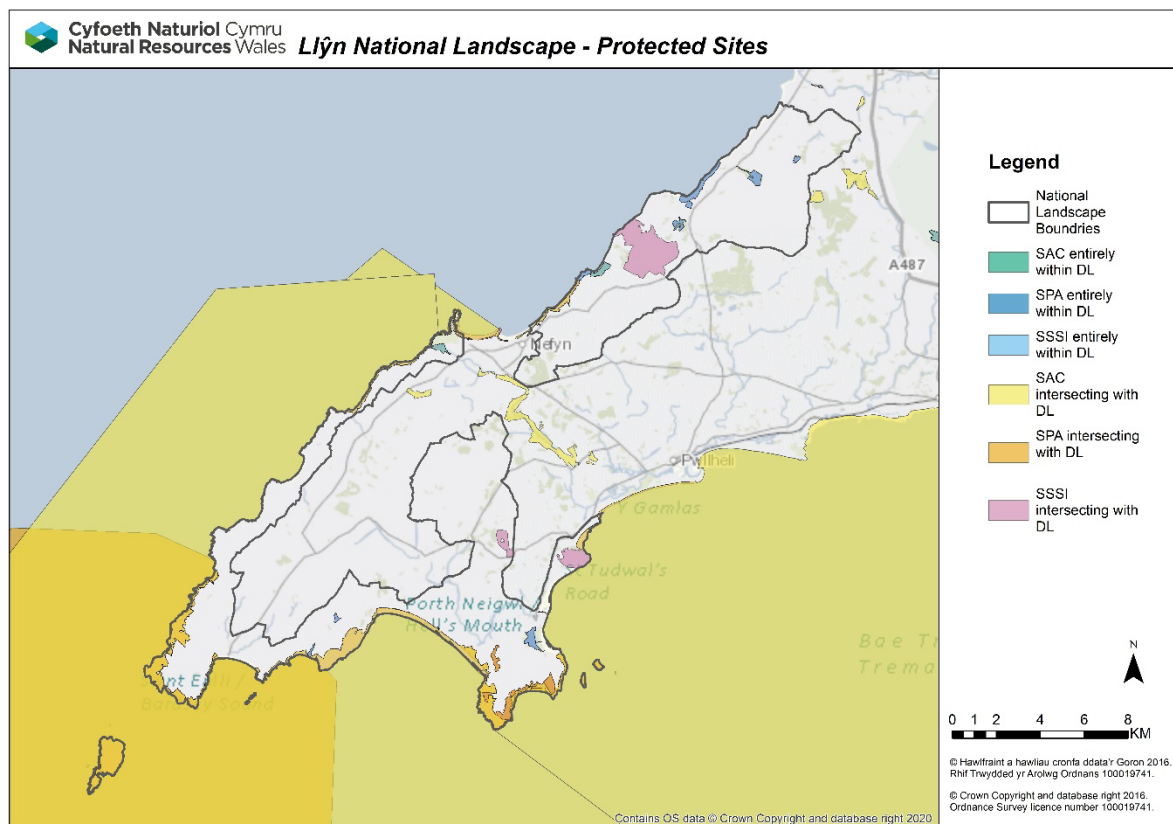


Figure 7 - Llyn National Landscape Protected Sites

The Llŷn NL contains 24 designated sites (20 SSSI, 2 SAC and 2 SPA) with a total of 89 SSSI features, 5 SAC features and 4 SPA features. Additionally, there is 1 SAC feature shared with Eryri National Park. The Llŷn NL does not directly own or manage any protected sites. The National Trust is a major strategic landowner with 12 protected sites covering 1123 hectares, along with smaller amounts of land owned by other conservation organisations. The Llŷn NL operates with a small team, and monitoring capacity is correspondingly limited and do not carry out any general or proactive monitoring within protected sites or more widely across the landscape.

As with the other NL, the monitoring they undertake is strongly project-led to evaluate the effectiveness of specific management interventions, but this tends to be short-term and not focused on protected sites. Recent monitoring and data collection activities included management evaluation monitoring on common land and heathland sites via photographic “before and after” surveys. Unusually, they have recently commissioned a detailed survey on a coastal SSSI to investigate issues reported to them.

When the NL needs data for reporting, they use the local environment records centre and utilise bird monitoring data from the RSPB and Bardsey Island Bird Observatory, but they do not hold any data internally. The Llŷn national landscape noted that with clear, practical guidance on monitoring methods that would be useful for protected-site evidence needs, there may be potential to involve the existing volunteer workforce more extensively.

Clwydian Range and Dee Valley National Landscape

The Clwydian Range and Dee Valley National Landscape covers upland ridges, river valleys and lowlands in north east Wales (Figure 1) with the Clwydian hills covering moorland and notable Iron Age historic features, with the Dee valley containing wooded slopes and river gorges (Clwydian Range and Dee Valley AONB Joint Committee, 2021) (Figure 8). The area is currently (2026) under consideration for the creation of a new national park (Natural Resources Wales, 2026b). The national landscape comprises 23 designated sites: 22 SSSIs (11 wholly within the NL boundary) and 1 SAC. There are an additional 2 SSSI, 2 SACs, and 1 SPA that are shared with Eryri National Park. Major strategic landowners including the National

Trust, NRW forest estate and the woodland trust own portions of 12 of the protected sites (*Table 3*).

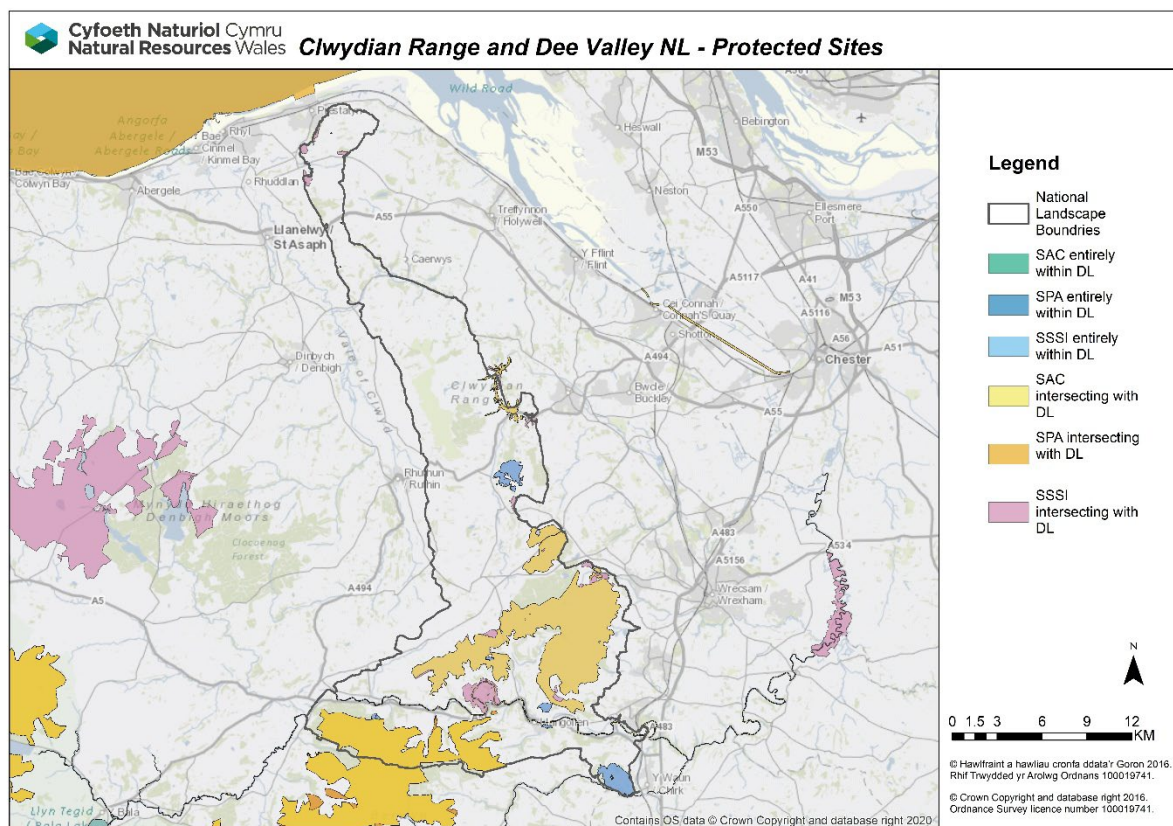


Figure 8 Clwydian Range and Dee Valley National Landscape Protected Sites

Although the NL team has management agreements and programs of work in place on some SSSI and parts of the SAC, they do not carry out large-scale monitoring of the designated features on these sites. The team's visibility of protected sites is greatest where it is directly involved in management works, and more limited where it has no active management role. Similar to the other designated landscapes, the extent of proactive monitoring is constrained by limited specialist capacity and broad staff remits.

The NL team and its partners conduct various monitoring activities that are directly or indirectly relevant to protected sites and their features. Site-specific monitoring efforts include UK Butterfly Monitoring scheme transects and moth surveys at Loggerheads country park (SSSI and SAC), and ash dieback surveys on this site, which are directly relevant to one of the designated features (SSSI 31WDD, semi-natural woodland, A1.1.1 and A1.2.1 features). The NL carries out black grouse

(*Lyrurus tetrrix*) lek counts at the Ruabon/Llantysilio Mountains and Minera (SSSI) and Berwyn (SSSI), which is directly relevant to one of the designated features (SSSI 31WJE and 31WBY, Black Grouse - *Tetrao tetrrix*¹ - Breeding, 232 feature). Plant surveys carried out by the NL team on several sites have direct relevance to the designated features of protected sites, at Dunas Bran grassland community monitoring (SSSI 31WJD, Acid grassland and calcareous grassland, B.1 and B.2 features) and rapid notable plant checks (SSSI 31WJD, greater broomrape greater broomrape (*Orobancha rapum-genistae*), shepherd's cress (*Teesdalia nudicaulis*) and upright chickweed (*Moenchia erecta*) 611, 829, 343 features) have direct relevance to the designated features of the protected sites, the NL currently uses this information to inform management planning and internal reporting requirements and while it is shared externally with the LERC weather NRW makes best use of this data is not known.

The CRDV monitoring several upland sites for a variety of purposes including annual black grouse (*Lyrurus tetrrix*) lek counts and curlew (*Numenius arquata*) nest surveys (breeding site and productivity data), delivered heavily in partnership with the RSPB and local moorland groups and blanket bog peat condition surveys feeding into the National Peatland Action Programme (NPAP) which have some links to some of the designated features of the protected sites however because the monitoring is designed around species or project objectives, the methods and results do not always align directly with protected-site features.

The CRDV team undertakes wider landscape-scale work that produces relevant environmental data, such as dark skies quality monitoring using and ecological connectivity tracking through the Limestone Links (NNF4) project. However, these have limited direct relevance to protected site monitoring at this current time. However, it may be worthwhile to explore whether this spatially coarser data could provide contextual information to NRW for condition monitoring.

The CRDV team is currently transitioning to integrate their surveys, monitoring, and management work into a comprehensive GIS system. Once this work is complete, it

¹ Formally *Tetrao tetrrix* and listed as such within the site citation however *Lyrurus tetrrix* is the current UKSI accepted name

was felt that data sharing, either proactively or in response to a specific request, would be easier than currently. At present, sharing or retrieving survey and monitoring data requires significant staff time across multiple people. Some of the project-based monitoring work conducted by the NL team is submitted to national schemes, such as the national butterfly monitoring scheme, or it might be submitted to the LERC; some data are held internally where there is not currently a routine external reporting route or specific data-sharing request. Some data and results are shared with specific people within NRW, primarily at the local level, although the team noted that this system could be an issue when people leave or move within NRW.

The CRDV national landscape team commented that there is a disconnect between their local management programs and NRW condition monitoring methods and results, meaning that it can be difficult for the team to relate on-the-ground management activity to formal protected-site condition outcomes. They also highlighted that with better access to NRW condition data and systems they would be able to bridge this gap better internally. The team also highlighted that they would like support in designing and implementing their GIS systems to ensure that they are as useful as possible to NRW and other partners for sharing and using monitoring and condition data.

Wye Valley National Landscape

The Wye Valley National Landscape straddles the England-Wales border (Figure 1) following the lower part of the River Wye and is defined by steep wooded gorges, limestone cliffs, parklands, and riverine habitats of high ecological importance, with the ancient woodlands and parklands noted for their rich assemblages of invertebrates (Natural Resources Wales, 2026b). The Wye Valley NL does not own or have management control over any protected sites. There are 22 SSSIs in the Welsh part of the NL and three SACs, all of which are cross-border (Figure 9).

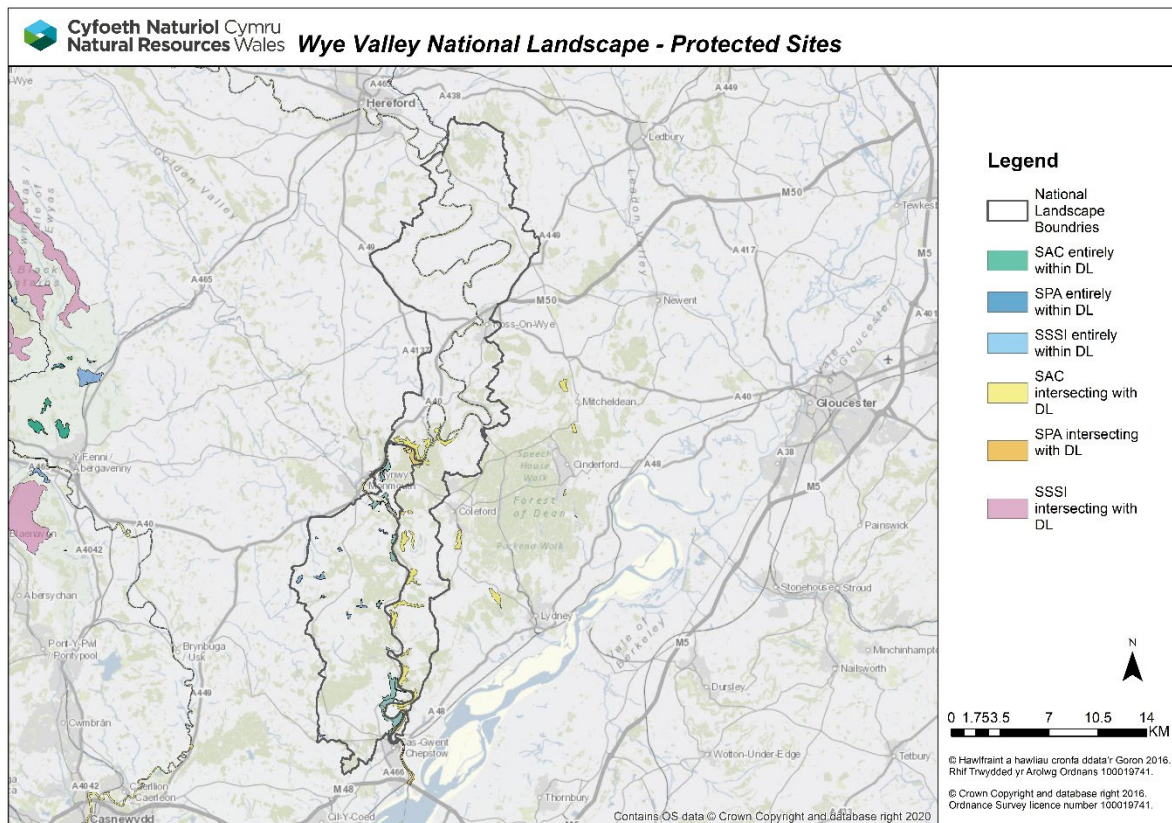


Figure 9 – Wye Valley National Landscape Sites

The Wye Valley NL team primarily operates through facilitation, engagement and partnership delivery, with monitoring activity mainly linked to specific projects and citizen-science initiatives. The Wye Valley relies on NRW condition monitoring classification when they are required to report on the condition of protected sites, and they highlighted both a general lack of capacity to conduct more proactive protective site monitoring, as well as the highly specialised skills needed to monitor the condition of some of the features within their NL. For example, one of the features of Blackcliff SSSI (33WFK) is *Seligeria campylopoda* (a moss), which would require a very high level of skill to monitor effectively.

The Wye Valley NL team is actively involved in specific monitoring activities that are either directly or indirectly relevant to protected sites or their features. Most notably, work conducted on the River Wye SAC (UK0012642) could have direct relevance to assessing the condition of the SAC, especially the monitoring of *Ranunculus* (Water Crowfoot), which is carried out by the Friends of the River Wye citizen science project “big water crowfoot watch”. The results of this citizen science project are

submitted electronically via a custom website maintained by the Friends of the River Wye. However, a routine route for passing these data to NRW was not identified, and it would appear that there is greater scope for this to be better used.

Five priority species have been identified within the NL, each one linked to a characteristic habitat of the landscape (woodland butterflies, Water Crowfoot (*Ranunculus spp*), bumblebees (*Bombus spp*), hedgehog (*Erinaceus europaeus*) and noble chafer (*Gnorimus nobilis*). Two of these priority species relate to protected site features, woodland butterflies link to the Upper Wye Gorge SSSI (33WW4) feature “Wood White - *Leptidea sinapis*” and Water crowfoot links directly to the River Wye SAC (UK0012642) feature “Rivers with floating vegetation often dominated by water-crowfoot”. Currently, this monitoring is not being conducted on the protected site itself, but they do provide evidence that could be useful to NRW for wider monitoring. Additionally, they illustrate the potential opportunity for better spatial targeting of existing DL monitoring to maximise its usefulness to NRW.

As part of the priority species monitoring presence/absence surveys for bumblebees and the synthesised pheromone lure trapping for noble chafer (*Gnorimus nobilis*), but these activities are primarily relevant to wider nature-recovery and priority-species objectives rather than directly to protected-site feature monitoring. The data from the DL's monitoring activity are, for the most part, shared or submitted immediately to national citizen science schemes, where they would be available to NRW. The exception to this is the eDNA presence/absence survey data, which is held locally.

The NL team suggested that to enhance the efficiency of their work, it would be beneficial to be able to access or be proactively given the up-to-date condition assessment and survey information on the protected sites from NRW, which it was felt would enhance the NL's ability to align its landscape-scale work and habitat restoration plans to the specific ecological requirements of SSSIs and SACs.

Gower National Landscape

The Gower National Landscape is located on the south Wales coast (Figure 1) covers limestone cliffs, sandy beaches, salt marshes, and lowland farmland (Gower AONB Partnership, 2016). Gower NL is noted for its limestone coast and strip fields,

habitats supporting unique flora. (Natural Resources Wales, 2026b). Gower NL contains a wide range of protected sites, including five SACs and 27 SSIs, with a total of 120 SSSI features and 15 SAC features. Additionally, there are 9 SAC features from 2 SAC sites, which are shared with the Pembrokeshire coast NP.

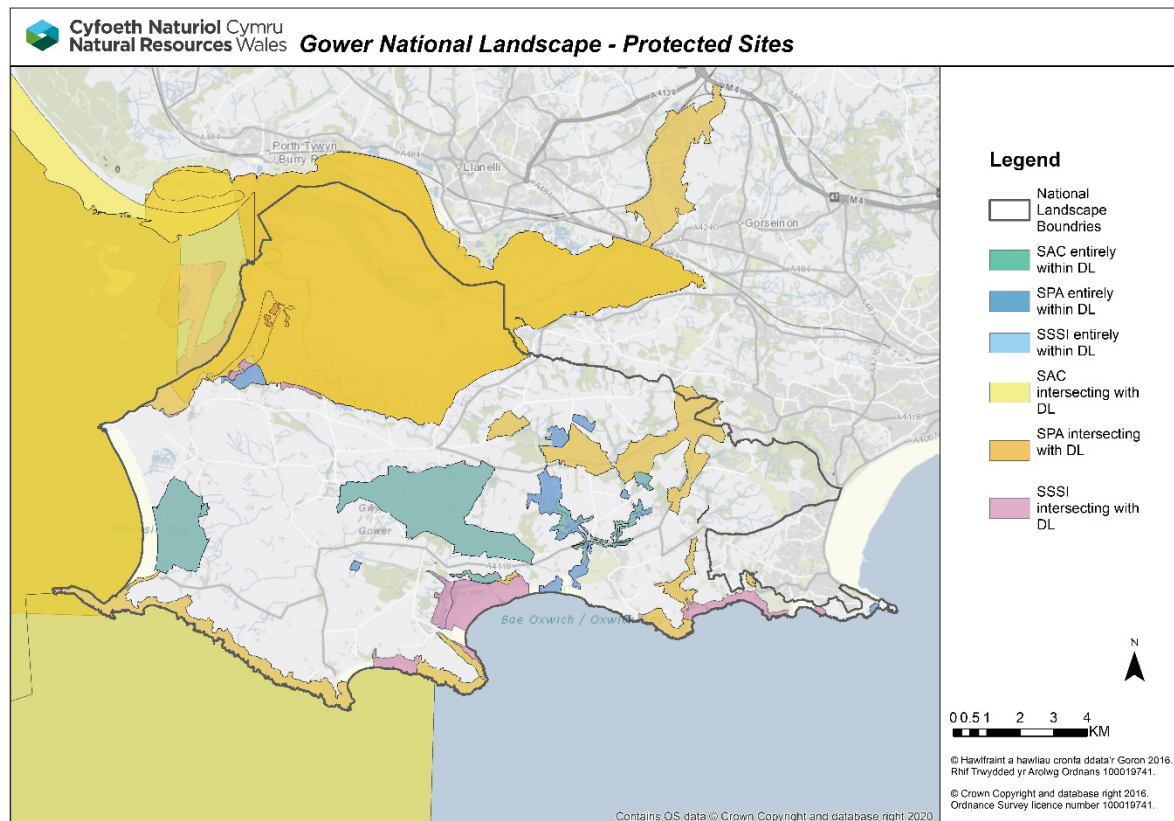


Figure 10 - Gower National Landscape Protected Sites

Within the Gower NL, the National Trust is a major landowner and manages 18 protected sites across 3,883 hectares, while NRW Forest manages a further 3 protected sites covering 135 hectares.

Similar to the Wye Valley NL, the Gower NL operates with a small team focused primarily on project delivery and engagement for discrete grant-funded projects. These projects do not usually include long-term monitoring requirements within their funding or delivery scope. The team reported that available capacity limits the extent to which proactive monitoring can be undertaken internally and they would normally commission such work externally if needed. The NL team noted a general lack of current condition data and trend information for many of the protected sites within the

landscape, which was also noted in the latest state of the landscape report (Swansea Council, 2025).

The internal monitoring work currently undertaken by the Gower NL team included fixed-point photography surveys to monitor landscape change, dark-sky monitoring, and some limited UAV surveys used for historic environment and rights-of-way work. These activities are primarily relevant to landscape, access, historic environment or special-quality monitoring, rather than directly to protected-site feature condition.

Discussion

This project set out to establish the current nature and extent of monitoring of protected sites by Designated Landscapes in Wales. It found that Designated Landscapes already generate evidence that could support protected-site monitoring, and that this evidence is valuable because it is often locally grounded and connected to active land management. However, the evidence is held across multiple systems, reports, records centres, national schemes and partner organisations, meaning that additional collation and interpretation would often be needed before it could be used in formal condition reporting.

This fragmentation matters for the 30by30 evidence framework. The Monitoring and Evidence Expert Group identified evidence collation, data sharing and robust evidence platforms as core development areas for Target 3 reporting (Davies et al., 2024). The main opportunity, therefore, is to make existing and future evidence more findable, accessible, interoperable and reusable. This aligns with both the delivery principles recommended by the Expert Group and the practical data-flow problems reported by Designated Landscape teams.

Monitoring was most developed where Designated Landscape teams owned or managed land, held agreements, delivered funded projects or worked through established partnerships, and was more limited where teams had no direct land-management role. This pattern is consistent with the governance of Designated Landscapes as landscape bodies with broad purposes and partnership roles.

A second pattern was a difference in the scale and structure of evidence. Common Standards Monitoring remains feature-focused, organised around interest features, broad attributes and condition categories (JNCC, 2022). Much Designated Landscape evidence, by contrast, is recorded at project, site, or landscape scale, such as red-amber-green management assessments, fixed-point photography, project output monitoring, and Landscape Character Assessment. The 2022 Common Standards Monitoring statement is helpful here because it frames the approach as an interpretative framework that can draw on a broader range of evidence (JNCC, 2022). This creates scope for Designated Landscape evidence to contribute more effectively to protected site monitoring through the use of this broader data.

Capacity was the most consistently reported factor shaping the extent of monitoring activity across teams. The issue was not only staff time but also specialist ecological knowledge, data management capacity, geographic information system support, and the ability to process records after fieldwork. This finding supports the Designated Landscapes Expert Group's recommendation that geographic information system capability be strengthened within Designated Landscapes (Berry et al., 2024) and the Monitoring and Evidence Expert Group's conclusion that current resources and data flows are not sufficient to deliver Target 3 assessment under present practice (Davies et al., 2024). Standardised templates appear to be a practical enabling mechanism: Bannau Brycheiniog reported that NRW templates for the National Peatland Action Programme work helped standardise data capture across funding streams. One Authority reported that in their view its volunteers could not support an NRW-led monitoring task due to governance challenges because the activity was considered to be a statutory NRW responsibility so even though local volunteer capacity was available and willing to contribute this could not be taken forward. This highlights a potential issue on how volunteer and partner data and activity could be mobilised / integrated into future protected site (and indeed wider NRW) monitoring considering the governance frameworks in place.

Data-sharing arrangements varied between landscapes and projects, and in some cases the route by which evidence entered NRW systems was not clear. Some evidence reached local environmental records centres or national schemes, some

went to individual NRW officers, and some remained internal to Designated Landscape teams. This creates uncertainty about whether useful evidence reaches the part of NRW that needs it. A few DL's report having strategic data sharing agreements in place as part of existing partner lead projects, this may be a rough basis on which to base or model future data agreements or strategies on.

Taken together, these findings point to an opportunity for NRW to make better use of the evidence that Designated Landscapes already hold, for example, by clarifying which evidence types are usable, exploring more formal two-way data flows, and supporting teams to align existing monitoring with protected-site needs.

Conclusion and recommendations

Designated Landscapes are an important source of evidence on protected sites. They hold and generate data directly relevant to designated features, particularly where teams own or manage land. Yet, this evidence is distributed across multiple systems, organisations and project-reporting routes and there may be opportunities for Natural Resources Wales to make fuller and more systematic use of it. Based on the findings of this project, several actions are suggested:

- Define what counts as usable evidence. Natural Resources Wales should set out the evidence types and formats that are useful for condition and management-effectiveness reporting, remaining as flexible as it is able, so that Designated Landscapes can more easily identify which evidence types and formats would be most useful to record and share.
- Formalise a two-way data flow. A defined route into Natural Resources Wales would allow existing data to be used and understood more fully, rather than relying on informal sharing with individual local officers.
- Standardise where practical. Data standards should be applied as far as is practical, while recognising the differing resource, team and governance structures across Designated Landscapes, so that data are comparable,

shareable and queryable, and so that everyone involved is supported to use them effectively.

- Consider a data-sharing agreement. A formal data-sharing agreement, or a similar arrangement, would allow Natural Resources Wales to access information held by Designated Landscapes, including land ownership or commercial details.
- Target existing and funded monitoring. Where Designated Landscapes already monitor sites or features, there may be opportunities to align that activity more closely with protected-site feature evidence needs to increase their value to Natural Resources Wales, where this is possible within the funded projects that drive current monitoring.
- Engage partners at a corporate / more formal level. Understanding what other organisations are doing through more formal avenues, rather than personal contacts, would help both Designated Landscapes and Natural Resources Wales make fuller use of existing data and understand where enhancements and synergies could be made.

References

Bainbridge, I., Brown, A., Burnett, N., Corbett, P., Cork, C., Ferris, R., Howe, M., Maddock, A., Ed, M., & Pritchard, S. (2013). Guidelines for the Selection of Biological SSSIs Part 1: Rationale, Operational Approach and Criteria for Site Selection. JNCC.

Bannau Brycheiniog National Park Authority. (2023). Management Plan For Bannau Brycheiniog National Park 2023-2028. Bannau Brycheiniog National Park Authority.

Brecon Beacons National Park. (2019). A Nature Recovery Action Plan for the Brecon Beacons National Park.

Canals and rivers trust. (2025). Canals and Rivers Trust Third Party Data [Feature Service]. [NRW GIS Portal](#)

Clwydian Range and Dee Valley AONB Joint Committee. (2021). Clwydian Range and Dee Valley Management Plan Review 2020-2025.

Davies, C. Lloyd, D. Stothard, K. Spode, S. Skates, J. Wade, K. Allen, D. Hatton-Ellis, T. Camplin, M. Lucas, R. Bailey, J. Medcalf, K. Cheffings, C. Davies, J. Price, R. Rowe, A. Smart, S. MacDonald-Lofts, R. Hawley, J. Smith, A. MacDonald, M. Burns, F. Boughy, K. Hill, D. Rhydderch, M. York, H. (2024). [Initial recommendations of the Monitoring and Evidence Expert Group for Wales](#). Biodiversity Deep Dive Monitoring and Evidence Expert Group.

Edwards, C., & York, H. (2025). Sites of Special Scientific Interest: A Review of the Current Series in Wales (NRW Evidence Reports 878). Natural Resources Wales.

Gower AONB Partnership. (2016). Gower Area of Outstanding Natural Beauty Management Plan 2017. Gower AONB Partnership.

Interim Environmental Protection Assessor for Wales. (2026). Report by the Interim Environmental Protection Assessor for Wales (IEPAW) on protected areas in Wales. Welsh Government. <https://www.gov.wales/protected-sites-wales-report>

Isle of Anglesey County Council. (2023). Anglesey Area of Outstanding Natural Beauty Management Plan 2023-2028.

JNCC (2003) [Common Standards Monitoring: Introduction to the Guidance Manual, JNCC](#)

JNCC (on behalf of the Common Standards Monitoring Inter-agency Working Group). 2022. [A Statement on Common Standards for Monitoring Protected Sites](#) (2022), JNCC

JNCC. (2026). [Terrestrial monitoring schemes](#). JNCC

Lloyd, D. (2025). Draft Management Effectiveness Monitoring in Wales. Natural Resources Wales.
[https://cyfoethnaturiolcymru.sharepoint.com/sites/smar/stratplan/tsg/StratDev/Management Effectiveness/Effective management evaluation in Wales - v6 FINAL DRAFT.docx](https://cyfoethnaturiolcymru.sharepoint.com/sites/smar/stratplan/tsg/StratDev/Management%20Effectiveness/Effective%20management%20evaluation%20in%20Wales%20-%20v6%20FINAL%20DRAFT.docx)

LUC. (2022). State of the AONB Report 2022 For the Anglesey Area of Outstanding Natural Beauty. Anglesey Area of Outstanding Natural Beauty.

McLeod, C., Yeo, M., Brown, A., Burn, A., Hopkins, A., J, J., & Way, S. (2009). Part 1: Background to site selection The Habitats Directive: Selection of Special Areas of Conservation in the UK. JNCC. <https://jncc.defra.gov.uk/resources/5d20b480-9cc1-490f-9599-da6003928434>

MOD. (2022). MOD Third Party Data [Feature Service]. NRW GIS Portal.
https://gisserver.cyfoethnaturiolcymru.gov.uk/server/rest/services/Ownership/MOD_Third_Party_Data/FeatureServer

National Trust. (2025). National Trust Third Party Data [Feature Service]. NRW GIS Portal.
https://gisserver.cyfoethnaturiolcymru.gov.uk/server/rest/services/Ownership/National_Trust_Third_Party_Data/FeatureServer

Natural Resources Wales. (2020). [State of Natural Resources Report \(SoNaRR\) for Wales 2020](#). Natural Resources Wales

Natural Resources Wales. (2021). [Protected Sites Baseline Evidence Review](#) [Data set]

Natural Resources Wales. (2022a). Special Areas of Conservation (SAC) [Data set]. DataMap Wales. https://datamap.gov.wales/layers/inspire-nrw:NRW_SAC

Natural Resources Wales. (2022b). Special Protection Areas (SPA) [Data set]. DataMap Wales. https://datamap.gov.wales/layers/inspire-nrw:NRW_SPA

Natural Resources Wales. (2024a). Designated Landscapes of Wales [Data set]. Data Map Wales. <https://datamap.gov.wales/maps/designated-landscapes-of-wales/>

Natural Resources Wales. (2024b). Designated Landscapes of Wales [Data set]. Data Map Wales. <https://datamap.gov.wales/maps/designated-landscapes-of-wales/>

Natural Resources Wales. (2026a). Sites of Special Scientific Interest (SSSI) [Data set]. DataMap Wales. https://datamap.gov.wales/layers/inspire-nrw:NRW_SSSI

Natural Resources Wales. (2026b). State of Natural Resources Report. Natural Resources Wales. <https://cdn.cyfoethnaturiol.cymru/f45ehjei/sonarr2025-final-report.pdf>

NBN Trust. (2026). NBN Atlas [Data set].

NRW. (2026). NRW Forest Ownership [Feature Service]. NRW GDB VECTOR.

Pembrokeshire Coast National Park Authority. (2019). Pembrokeshire Coast National Park Management Plan 2020-2024. Pembrokeshire Coast National Park Authority.

RSPB. (2022). RSPB Third Party Data [Feature Service]. NRW GIS Portal. nmq501.9da46ec3d278.database.windows.net

Singleton, G., Blanchard, S., Kettle, E., Harris, N., Dozier, L., Hood, H., Wheatley, H., Scott, S., Thomas, K., Lawson, H., & Chaniotis, P. (2024). Development and testing of the Management Effectiveness of Protected and Conserved Areas (MEPCA) Indicator. JNCC. <https://data.jncc.gov.uk/data/0adff9e4-d741-4fe6-9a24-0cf7fe75ba7f/jncc-report-781.pdf>

Snowdonia National Park Authority. (2020). The Statutory Management Plan for Snowdonia National Park. Snowdonia National Park Authority.

Swansea Council. (2025). Gower National Landscape State of the National Landscape. LUC.

Welsh Government. (2019). [Environment \(Wales\) Act 2016 Part 1: Sustainable Management of Natural Resources - Guidance on Natural Resources Wales' general purpose](#)

Welsh Government. (2022). Report, Document Biodiversity deep dive: recommendations. <https://www.gov.wales/biodiversity-deep-dive-recommendations.html>

Welsh Government. (2025). A 30by30 framework for Wales. Welsh Government. <https://www.gov.wales/30by30-framework-wales-html>

Welsh Wildlife Trusts. (2025). Wildlife Trusts Third Party Data [Feature Service]. NRW GIS Portal. https://gisserver.cyfoethnaturiolcymru.gov.uk/server/rest/services/Designations/Wildlife_Trusts_Third_Party_Data/MapServer

Woodland Trust. (2025). Woodland Trust Third Party Data [Feature Service]. NRW GIS Portal. https://gisserver.cyfoethnaturiolcymru.gov.uk/server/rest/services/Ownership/Woodland_Trust_Third_Party_Data/FeatureServer

Appendix A – Land ownership

Only a small number of SSSI, SAC and SPA sites are directly owned by the designated landscapes themselves. For those not owned by the designated landscapes, there is a limit to the ownership information that is either available or can be shared in this format. There are, however, unrestricted NRW GIS records for some of the major landowners (Table 2). Many of these landowners will be carrying out monitoring and or contributing to national/regional schemes (JNCC, 2026), for example, in the Clwydian Range and Dee Valley NL, the RSPB carries out annual monitoring of black grouse, curlew, reptiles and butterflies (Clwydian Range and Dee Valley AONB Joint Committee, 2021).

Table 2 - Select major landowners within Designated Landscapes

Landowner	Comment	Ownership spatial layer source
Ministry of Defence (MOD)	Central government	(MOD, 2022)
National Trust	NGO	(National Trust, 2025)
Royal Society for Protection of Birds (RSPB)	NGO	(RSPB, 2022)
Natural Resources Wales (Forest)	NRW land classified as “forest” within NRW ownership records	(NRW, 2026)
Canal & River Trust	NGO	(Canals and rivers trust, 2025)
Gwent Wildlife Trust	NGO	(Welsh Wildlife Trusts, 2025)
Montgomeryshire Wildlife Trust	NGO	(Welsh Wildlife Trusts, 2025)
North Wales Wildlife Trust	NGO	(Welsh Wildlife Trusts, 2025)
Wildlife Trust of South and West Wales	NGO	(Welsh Wildlife Trusts, 2025)
Woodland Trust	NGO	(Woodland Trust, 2025)

Using the boundaries for the designated landscapes (Natural Resources Wales, 2024b) and the list of protected sites (Natural Resources Wales, 2022b, 2022a, 2026a) with the ownership layers set out in Table 2. The following information on land ownership within DL has been calculated, sites with an overlap of <0.001 ha have been excluded, and as the SSSI data set is a dynamic list and ownership boundaries are based on those held by NRW, then it is not comprehensive. Some caution is needed in its interpretation; however, it does illustrate the potential key organisations to consider. It should also be noted that ownership does not always equate to management.

Following the removal of the nine sites where ownership was less than <0.001 ha, there was a total of 210 protected sites within designated landscapes that fell within the ownership of the organisations listed in *Table 3* (this includes overlaps between SSSI, SAC and SPA's) covering a total of approximately 63,849.05 ha in total (including overlap), as shown in *Table 3*.

Table 3 - Major landowner overlap between protected sites within designated landscapes

Designated landscape	Total no. of protected sites on land owned by a major landowner	Total area of protected sites on land owned by a major landowner	No. of protected sites owned by MOD (area in ha)	No. of protected sites owned by the National Trust (area in ha)	No. of protected sites owned by RSPB (area in ha)	No. of protected sites owned by NRW (Forest) (area in ha)	No. of protected sites owned by Canal & River Trust (area in ha)	No. of protected sites owned by Gwent Wildlife Trust (area in ha)	No. of protected sites owned by Montgomeryshire Wildlife Trust (area in ha)	No. of protected sites owned by North Wales Wildlife Trust (area in ha)	No. of protected sites owned by Wildlife Trust of South and West Wales (area in ha)	No. of protected sites owned by Woodland Trust (area in ha)
Eryri	59	42,595.09	-	26	8 (570.79)	41 (3,991.09)	-	-	3 (16.66)	6 (94.56)	-	12 (591.63)
Pembrokeshire Coast	46	7,527.18	7 (3,422.06)	38 (3,279.97)	8 (863.12)	5 (7.03)	-	-	-	-	-	-
Bannau Brycheiniog	30	4,790.14	3 (2.49)	8 (4,124.63)	-	18 (508.86)	4 (6.19)	1 (3.96)	-	-	9 (117.44)	1 (26.56)
Gower	20	4,019.12	-	18 (3,883.33)	-	3 (135.78)	-	-	-	-	-	-
Ynys Môn / Anglesey	18	2,984.12	2 (0.21)	11 (165.68)	4 (910.30)	5 (1,833.76)	0 (0.00)	0 (0.00)	0 (0.00)	3 (74.17)	0 (0.00)	0 (0.00)
Llyn	14	1,144.91	0 (0.00)	12 (1,123.55)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1 (6.40)	0 (0.00)	1 (14.97)
Wye Valley (Wales)	14	358.13	0 (0.00)	0 (0.00)	0 (0.00)	12 (271.95)	0 (0.00)	6 (30.35)	0 (0.00)	0 (0.00)	0 (0.00)	2 (55.83)
Bryniau Clwyd a Dyffryn Dyfrdwy / Clwydian Range and Dee Valley	12	302.58	0 (0.00)	2 (212.59)	0 (0.00)	4 (76.65)	2 (0.56)	0 (0.00)	0 (0.00)	2 (8.34)	0 (0.00)	3 (4.44)

Note: A single protected site may overlap with multiple landowners. Area values are the total area of SAC, SPA, and SSSI, so they include overlap between designations on the same site.

The National Trust had the largest overall overlap area, especially within Eryri, Bannau Brycheiniog, the Gower, and Llyn DI. NRW forests were also widely represented, especially in Eryri and Anglesey; the MOD was most relevant in the Pembrokeshire coast NP, and RSPB ownership is notable in the Pembrokeshire coast, Anglesey, and Eryri.

Appendix B – Summary of meetings with designated landscapes

Bannau Brycheiniog National Park

- National Park owns or part-owns some protected sites.
- Monitoring is mostly needs-based.
- No comprehensive protected-site condition monitoring programme was described.
- Monitoring is strongest where the National Park is actively managing land.
- Formal protected-site condition assessment remains primarily an NRW role.
- National Park staff indicated they would use up-to-date NRW condition data if available.
- Current NRW condition information was described as incomplete, old, or difficult to access in some cases.
- The National Park has offered support with condition assessment previously, but this has not always progressed due to NRW capacity.
- Black Mountains SSSI:
 - Common standards-style assessment undertaken across summit habitats.
 - Dry heath, wet heath and blanket bog were covered.
 - Grid-based survey approach used.
 - Definitive dataset reported as held by NRW.
 - Site assessed as unfavourable.
- Waterfall Country:
 - Monitoring focused on visitor pressure and access management.
 - People counters, footpath condition, erosion, traffic pressure and gorge-walking pressure were discussed.

- Iltyd Pools:
 - Hydrological monitoring installed.
 - Restoration and management-plan revision planned / underway.
 - No full systematic condition assessment yet.
- Mynydd Du:
 - Historic phase 1.5 survey exists.
 - Later revision work started but not completed.
 - Data not treated definitive because the project was not finished.
- Caeau Ty Mawr / Llangorse Lake:
 - Condition assessment information and management plan mentioned.
- Carreg Cennen Woodlands and Bloreng:
 - Issues noted, but no comprehensive condition assessment described.
- Peatland restoration GIS is one of the clearest evidence streams.
 - Older peatland dataset has limited attributes.
 - Newer peatland dataset is regarded as more accurate.
 - Newer data structure adopted from an NRW funding-reporting template.
 - This template was then used more widely to standardise BBNPA peatland records.
 - For SEF-funded work, shapefiles are returned to NRW.
 - Most non-SEF-mapped data remain within BBNPA unless requested.
- Some data go to NRW.
- Some species records go to the local records centre.
- Peatland data may feed National Peatland Action Programme routes.
- Some datasets are supplied on request.

- Internal storage is relatively strong for GIS datasets.
- Smaller conservation activities are not always systematically recorded.
- Evidence of works completed is stronger than evidence of ecological outcomes.
- Staff time is a major constraint.
- Some good datasets are incomplete or not definitive.
- Site-level and landscape-level data do not always map cleanly to protected features.
- Need for clearer guidance on how mixed evidence should inform condition assessment.

Pembrokeshire Coast National Park

- National Park owns land, some of which is designated.
- National Park also has many management agreements with private landowners.
- Monitoring is carried out on owned sites and management-agreement sites.
- Monitoring is not formal common standards monitoring.
- Current approach is professional-opinion monitoring using broad red/amber/green assessments.
- Monitoring is mostly at site or management-unit level.
- Feature-level reporting is not how the National Park currently works.
- Noted that NRW requests would be easier to respond to if aligned to site / unit formats.
- Owned sites:
 - Professional-opinion assessments.
 - Broad RAG-style condition / management-performance ratings.
 - Narrative notes used internally.
- Management agreements:

- Compliance monitoring.
- Site-level assessment of whether management objectives are being met.
- Chough:
 - Coordinated monitoring programme using skilled volunteers.
 - Direct relevance to SPA feature monitoring.
- Ministry of Defence land:
 - Embedded ranger work includes chough and seal monitoring.
 - Seal monitoring potentially relevant to SAC features.
 - Data flow into NRW central reporting unclear.
- Visitor / access monitoring:
 - Coast path counters and visitor pressure information.
 - Potential relevance to pressure assessment.
- UAV work:
 - Used mainly for historic environment and recreational impacts.
 - Potential biodiversity monitoring application noted.
- National Park has developed a master spatial site layer.
 - Internal site codes used.
 - Codes link site records and monitoring records.
 - Monitoring table has been developed or is ready for use.
 - Records can be linked through QGIS / PostGIS relational tables.
 - Dataset can identify owned sites, management agreements, active / inactive sites, scheme type, officer responsibility and area.
 - Protected-site status is not always stored as a direct field but can be queried spatially.

- Historic monitoring records exist in spreadsheets.
- Some historic data could potentially be linked to the new system.
- Internal data mostly remains within National Park systems.
- Some information may be shared with NRW officers.
- Data are not generally published in detail.
- Sensitive landowner / management agreement information affects data sharing.
- Local records centre receives relevant species records where appropriate.
- Monitoring is not currently rigorous enough to satisfy MEPCA.
- Internal site codes do not automatically match NRW protected-site codes.
- NRW condition reporting operates at a different scale from National Park management units.
- Staff capacity limits data collation and historic backfilling.
- Data-sharing route to central NRW protected-sites teams unclear.
- Leads feature-level SSSI monitoring beyond chough and seal work.
 - Delivered through several projects and programmes, including the Nature Networks Fund (NNF, currently NNF4).
 - NNF aims:
 - Increase volunteer numbers and skill levels.
 - Improve SSSI habitat condition.
 - Restore habitats connecting SSSIs.
 - Provides funding for training, mileage and survey materials.
- North Pembrokeshire Woodlands SAC:
 - Volunteers trained in SSSI monitoring protocols.
 - Oak woodland and wet woodland features monitored.

- Both features now monitored across all 7 constituent SSSIs.
- Results sent to NRW Conservation Officer (Pembrokeshire Team).
- Direct relevance to SAC / SSSI feature monitoring.
- Dormice (Pengelli Forest SSSI and Ty Canol SSSI):
 - Both sites within North Pembrokeshire Woodlands SAC.
 - Designated feature at Pengelli Forest only.
 - Monitored by a single licensed volunteer for several years.
 - Second volunteer now being trained, funded through NNF.
 - Results shared with relevant NRW officers.
- Marsh fritillary:
 - Monitoring coordinated across SSSIs and non-designated sites.
 - Delivered with volunteers and staff from NRW and Pembrokeshire County Council.
- Perennial centaury (Newport Cliffs SSSI):
 - Designated feature of the site.
 - Volunteer trained to identify and map individual clumps.
- Sustainable Farming Scheme (SFS) protocols:
 - New SSSI monitoring protocols received for SFS sites.
 - Being trialled with volunteers on SSSIs under positive management.
 - Aim to show whether management is achieving intended effects.
 - Could support progress towards Naturfa status.
- Volunteers:
- SSSI monitoring valued by volunteers in its own right.

Eryri National Park

- Bats:
 - Contribution to National Bat Monitoring Programme.
 - Maternity and hibernation sites mentioned.
- Goats:
 - Mentioned as one of the closer examples of long-term monitoring.
- Peatland:
 - Peatland team holds relevant activity.
- Dark skies:
 - Monitoring linked to Dark Sky Reserve.
 - New project on dark ecological networks.
 - Potential indirect relevance to biodiversity and disturbance.
- Mapping of management activity appears stronger than outcome monitoring.
- Records likely to be held across different teams.
- No central monitoring database
- Project funding does not always include monitoring.
- Lack of baseline data was noted as a weakness where interventions occur.
- Monitoring tends to stop when short-term projects end.
- Loss of access to NRW Outcome 21 / similar information was raised as a problem.
- Current NRW site management statements and citations are useful but often dated.
- Protected-site condition data are highly useful to the Authority, not just for reporting but for management planning and priority setting, yet the Authority struggles to obtain them in a timely and sufficiently detailed form

- For State of the Park reporting, headline condition figures are useful; for management planning and the Nature Recovery Action Plan, the detailed substance of condition findings is needed.
- Strategic partnership data sharing is usually formalised through memoranda of understanding or data-sharing agreements, especially where information is intended to support strategic reporting.
- A recent biodiversity evidence exercise for the State of the Park drew on Cofnod, NRW and partner data, but large parts of the NRW-held information were not available within the project timescale.
- Sharing with major landowners and within larger partnership schemes is generally proactive.

Anglesey National Landscape

- Anglesey National Landscape owns and manages some protected-site land
- Main site discussed was Breakwater Country Park, Holyhead.
 - This includes an SSSI within the wider Glannau Ynys Gybi / Holy Island protected-site context.
- Holyhead Mountain / Holy Island SAC and SPA were also discussed.
- Council-owned land at Holyhead Mountain / Holy Island is leased to RSPB.
- Breakwater Country Park:
 - Owned / managed by the National Landscape.
 - Includes SSSI land.
 - Current work includes heathland restoration.
 - Aim is to restore a more varied mosaic structure.
 - Bracken control is a major management focus.
- Coastal heath and wildflower meadow management also discussed.
- Holyhead Mountain / Holy Island:
 - SAC and SPA context discussed.

- Land ownership / lease arrangements involve the council and RSPB.
- National Landscape has awareness of work where it connects to project or grant activity.
- National Trust sites:
 - National Landscape may support work through funding.
 - Heathland and wildflower meadow work noted.
- Data sharing depends on project involvement and grant conditions.
- Heathland survey and strategy:
 - Used to guide restoration and management.
 - Relevant to coastal heathland and mosaic restoration.
- Aerial photography:
 - Used to identify and assess change.
- Drone footage:
 - Used as supporting visual evidence.
- Fixed-point photography:
 - Used to check change over time.
- GIS records:
 - Managed-site information is held digitally.
- Project and grant information is reported to Welsh Government.
- Some information is reported to NRW through grant-reporting routes.
- Some records are shared with Cofnod through a service level agreement.
- If NRW requested information for a site, the National Landscape indicated it could be packaged and shared without major difficulty.
- Visibility of third-party data is more conditional.

- Time and capacity are major constraints.
- The number of active grants and projects limits monitoring capacity.
- Capability as well as capacity may constrain more detailed monitoring.
- Existing records may not be fully visible to NRW beyond project / grant routes.

Llŷn National Landscape

- Llŷn National Landscape does not own or manage protected sites.
- Team capacity is limited.
- No general protected-site monitoring programme
- The National Landscape holds an AONB report with protected-site information.
- Condition information for protected features is limited.
- One commissioned SSSI survey:
 - Coastal SSSI.
 - Commissioned after pressures were identified.
 - Pressures included scrub / bracken / overgrowth.
- Common land / heathland project work:
 - Welsh Government and biodiversity partnership funding.
 - Baseline surveys, photographic surveys, drone footage and before / after photos mentioned.
 - Project-led
- Cofnod used to submit and request records.
- Some project data held internally.
- External monitoring data generally remain with the organisation carrying out the work.
- No single protected-sites monitoring database
- Small team.

- Limited proactive monitoring capacity.
- External data visibility limited.
- Need for guidance on what useful monitoring would look like

Clwydian Range and Dee Valley National Landscape

- National Landscape has management agreements and work programmes on some SSSIs / SACs.
- Clear disconnect identified between local work and formal condition assessment.
- Staff do not always know whether local work is affecting NRW condition outcomes.
- Monitoring is project-specific and site-specific.
- No single protected-sites monitoring database
- Loggerheads:
 - UK Butterfly Monitoring Scheme transects.
 - Reptile surveys.
 - Ash dieback / woodland-related observations.
- Upland sites:
 - Black grouse lek counts with partners.
 - Curlew monitoring.
 - Peatland / moorland work.
- Dinas Brân:
 - Plant/grassland checks mentioned.
 - Rapid checks of notable plant features.
- Wider projects:

- Limestone Links / Nature Networks work across protected sites and connecting land.
- Dark skies monitoring.
 - Dark ecological networks.
- Wildfire risk/recovery information.
- Farming, meadow and hedgerow-related work.
- Data flow:
 - Some records go to Cofnod, but this appears ad hoc.
 - Black grouse data feed partnership reporting.
 - Curlew records may go to Cofnod / partner routes.
 - Peatland surveys may feed NPAP systems.
 - Some records remain in internal files or historic systems.
- Full site-level evidence request would require collation from different people and formats
- Limited specialist capacity.
- Broad staff remits.
- Fragmented systems.
- Access to NRW condition data / systems is limited.
- Need for access to Savila or equivalent data portal raised.
- Local work is not currently linked back to condition outcome

Wye Valley National Landscape

- Wye Valley National Landscape owns no land.
- It has no direct land-management control.
- Role is facilitation, engagement and project delivery with landowners and partners.

- Team does not see detailed protected-feature monitoring as its role.
- Team does not have specialist capacity required to do condition monitoring.
- Monitoring is mostly priority-species, partnership or citizen-science based.
- River Wye SAC:
 - Water crowfoot is a priority species.
 - Work linked to Big Water Crowfoot Watch.
 - Friends of the River Wye lead monitoring.
 - National Landscape supports / funds / sits on steering group.
 - Data are open / available through partner routes.
 - Unclear whether records go to the local records centre.
- Upper Wye Gorge:
 - Woodland butterfly work may have relevance.
- Five priority species:
 - Water crowfoot.
 - Bumblebees.
 - Hedgehog.
 - Noble chafer.
 - Woodland butterflies.
- Bumblebees:
 - BuzzWatch project.
 - Training with Bumblebee Conservation Trust.
 - Data uploaded to BeeWalk.
- Hedgehog:

- Footprint tunnels and cameras.
- Data uploaded to national hedgehog recording route.
- Noble chafer:
 - eDNA / lure trapping / survey development mentioned.
 - eDNA:
 - Baseline and before / after restoration evidence.
- Visitor monitoring:
 - Visitor numbers on Wye Valley Walk.
 - Includes Pearcefield Woods.
 - Counts people but does not directly measure site condition.
- Veteran trees:
 - Older survey information exists.
 - Reported through State of the National Landscape rather than shared as a standalone dataset.
- Most data go to partner or national schemes.
- Bumblebee data go to BeeWalk.
- Hedgehog data go to national hedgehog map / scheme.
- Friends of the River Wye data are open source.
- eDNA restoration data held locally.
- Open-source data used for State of the National Landscape reporting.

Gower National Landscape

- The National Landscape team is small.
- Work is mainly focused on project delivery and engagement.
- Projects are typically discrete and grant funded.

- Extended monitoring requirements are not normally built into these projects.
- The team has little capacity for proactive monitoring.
- If specific monitoring were required, the team would normally commission it externally.
- A general lack of current condition data and trend information for protected sites was noted.
 - This issue was also noted in the latest State of the Landscape reporting.
- National Trust is a major landowner within the National Landscape
- Fixed-point photography surveys:
 - Used to monitor landscape change.
 - Landscape-scale relevance.
 - No strong direct link to protected-site features.
- Dark skies monitoring:
 - Undertaken internally.
 - Relevant to landscape quality / special qualities.
 - No strong direct relevance to SSSI or SAC feature condition identified in the report.
- UAV surveys:
 - Limited UAV survey work reported.
 - Used for historic environment and rights of way work.
 - No strong direct link to protected-site features identified in the report.
- Fixed-point photography, dark skies monitoring and UAV outputs are likely held internally or within project files.
- Small team.
 - Limited proactive monitoring capacity.
- Grant-funded project delivery does not normally include long-term monitoring.
- Lack of current condition data and trend information for many protected sites.

- Existing monitoring does not map strongly to protected-site features.
 - Any additional monitoring would likely require external commissioning.
 - Major landowners hold or manage important areas of protected sites

Data Archive Appendix

Data outputs associated with this project are archived on server-based storage at Natural Resources Wales.

The data archive contains:

The final report in Microsoft Word and Adobe PDF formats.

Metadata for this project is publicly accessible through Natural Resources Wales' Data Discovery Service <https://metadata.naturalresources.wales/geonetwork/srv> (English version) and <https://metadata.cyfoethnaturiol.cymru/geonetwork/cym/> (Welsh Version). The metadata is held as record no NRW_DS161565.

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