Report 24/26
Operational Review Committee

Report of: Conservation Team, Nature Recovery

Subject: Cysylltu Natur / Connecting Nature 25x25

1. Purpose of Report

To provide Members with a summary of work completed under Cysylltu Natur 25x25, a Nature Networks Fund project (Round 3) funded by Welsh Government and administered by the Heritage Fund. The project ran from April 2024 until February 2026. The focus of NNF funding is to improve the condition, resilience and connectedness of the protected sites network of Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC) and Special Protected Areas (SPA).

There were many aspects to Cysylltu Natur but they all focused on improving the condition and connectedness of key habitats across North Pembrokeshire; and increasing community involvement in conservation management and monitoring. Work was undertaken to restore habitats and establish favourable management, enabling the species which depend upon them to recover and expand their populations. This included Invasive Non-native Species management across seven catchments.

Reintroducing grazing has been a vital component of habitat restoration, so we have worked with farmers to provide suitable infrastructure to facilitate grazing with appropriate livestock. Where feasible, we have planted or transplanted key species to restore diversity.

Volunteers were trained in monitoring key species and habitats. We recruited 10 young volunteers at the start of their conservation careers who took part to gain valuable skills and experience. This has helped us to increase the diversity of National Park Authority volunteers. Four progressed to full-time conservation work during the project and one went on to start a degree.

Much of the practical delivery of habitat work was undertaken by Pathways volunteers. The funding covered half of the cost of the Pathways programme over the two years.

Habitat conservation and restoration was carried out on marshy grassland, heathland, meadows, coastal grassland and heath and ancient woodland. Focal species for surveys and conservation action included Marsh fritillary, Southern damselfly, Harvest mouse, Greater horseshoe bat, Barbastelle bat, Dormouse, Chough and many lichen species.

2. Background documentation

Cysylltu Natur / Connecting Nature 25x25 Final Report

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Cysylltu Natur 25x25

Final Report for Operational Review Committee

Summary

The Cysylltu Natur 25x25 project combined habitat restoration, species protection and wildlife monitoring across Pembrokeshire. Work included restoring grazing for marsh fritillaries, improving streams for Southern damselflies, managing woodland for rare lichens, protecting bat hibernation sites, controlling invasive species and reducing wildfire risk. Monitoring covered all seven woodland Sites of Special Scientific Interest in the North Pembrokeshire Woodlands SAC, alongside surveys of bats, dormice, harvest mice, marsh fritillaries and choughs. Volunteers contributed 5,259 hours, with training expanding survey capacity and Pathways providing supported opportunities to participate in practical conservation.

1.0 Habitat Restoration

1.1 Marsh fritillary habitat work

Marsh fritillaries need large areas (roughly 100ha) of Rhos pasture (marshy grassland and wet heath) with abundant Devil's-bit scabious. The area can comprise many separate sites, but the butterflies can only fly up to 1km from one to the next. The vegetation needs to be kept roughly between knee and ankle height by grazing cattle or ponies. Devil's-bit scabious flowers from August to October, so traditional hay meadow management is unsuitable. These sites were historically grazed by cattle during the spring and summer, whilst enclosed meadows were shut off for hay, and when the ground is not too wet.





Cattle grazing was restored to six marshy grassland sites after the necessary infrastructure was put in place: new fencing, fencing repairs, provision of virtual fencing collars and crossing points. Bramble clearance and rush cutting was done by a contractor at one site to increase the area of suitable habitat.

Pony grazing has been reintroduced to a further five marshy grassland sites following fencing work or crossing point installations. One crossing point trialled the use of local biochar as a drainage material as a sustainable alternative to stone (and one which is light enough to transport across wet ground).

1380m of fencing work was undertaken around **Mynydd Preseli SSSI / SAC** so that traditional grazing can continue on the common, for which Marsh fritillary is a qualifying SAC feature.

The photos below show the biochar crossing point and some fencing on Mynydd Preseli.





Devil's-bit scabious plugs from a local nursery were planted out by Pathways volunteers on a marshy grassland site adjoining a known Marsh fritillary colony, to increase the area of suitable habitat. At another site, the volunteers have ring-barked young birch trees growing on **peatland** to prevent the peatland communities from being shaded or drying out.

All of the above sites are within either the **Ambleston – Puncheston** (where they add up to over 46ha) or the **Mynachlogddu** metapopulations of Marsh fritillaries and are increasing the connectedness and total area of suitable habitat. The larger fencing projects were done by contractors, but the fencing repairs and biochar crossing point were carried out by Pathways volunteers.

1.2 Stream and vegetation work for Southern damselflies

Southern damselflies need shallow-sided, open, slow-flowing streams which are warmed by the sun. They are mostly restricted to Mynydd Preseli and the New Forest. Several deep, overgrown streams just outside **Mynydd Preseli SSSI / SAC** were reprofiled to create shallow, open sides where aquatic plants can grow to support egg-laying by Southern damselflies. The streams are now much safer for livestock, too, without vertical sides and dense, overhanging vegetation.

On **Mynydd Preseli and Mynydd Dinas**, overgrown streams were carefully flailed to remove overhanging vegetation and open the streams up again so that aquatic species, and the Southern damselflies they support, can recolonise. Both areas are grazed by livestock which will help to keep the streams open. The photos below show a stream before and after cutting.





1.3 Woodland management for lichens

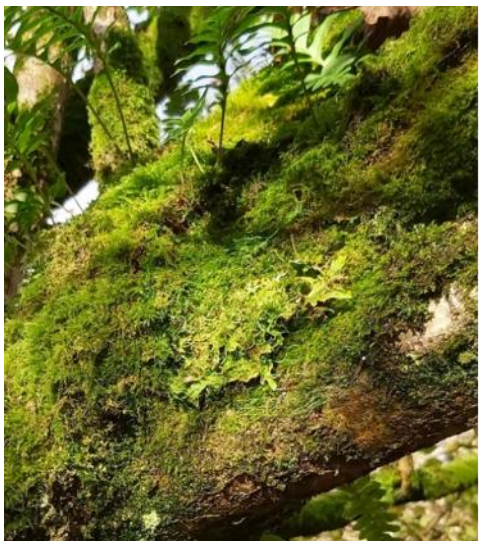
Lichens need moist, exceptionally clean air and plenty of sunlight. **Cwm Gwaun** has five SSSIs which are nationally important for lichens, but many are becoming too shaded now that traditional grazing has ceased on several woodland sites.

Our warden team has cut brambles around important lichen trees at **Sychpant**, as requested by NRW. A historic woodland glade was re-opened in **Kilkiffeth**, which cattle have been grazing in conjunction with the SSSI woodland to benefit lichens. This woodland has subsequently been surveyed by a lichen specialist on behalf of NRW and was

described as one of the two best examples of woodland management for lichens in Cwm Gwaun. Clearance of Ivy, Elder etc from around important lichen trees at **Sychpant** and **Allt Pontfaen SSSI** has been done by Pathways volunteers.

Lichen transplantation work has been undertaken by the Project Officer and a contractor and a report written. Windblown Tree lungwort pieces were rescued from the ground at Sychpant and 46 fragments were planted onto 20 suitable trees at **Sychpant, Coed Gelli Fawr and Kilkiffeth SSSIs**. As part of the work, a survey of lichen communities in PCNPA woodlands was carried out to determine which sites would be suitable to receive lichen transplants. Each tree has been tagged, its position recorded, and a report produced to enable ongoing monitoring. A press release led to the project officer taking part in a Country Focus interview about the work on Radio Wales.

Training was given to the project officer in identifying suitable trees and transplanting lichens, which was then cascaded to Pathways and other volunteers. Two young volunteers did their own transplants at Allt Pontfaen and just outside Kilkiffeth under supervision.





Subsequently, a professional **lichen survey** of SSSIs in Cwm Gwaun (commissioned by NRW) prompted PCNPA staff to look for some of the indicator species in **Allt Clyn**, which adjoins Kilkiffeth SSSI. Characteristic oceanic species were found including ‘Stinky Sticta’ which is frequent on hazels and willows in a rather overgrown woodland glade by the river, where trees have fallen onto the hazels in the glade and were now shading the lichens. Contractors and volunteers worked to clear fallen material away from stems with important lichen communities. They have opened up access so that the area can be maintained by volunteers using hand tools.

Coincidentally, a new **Pembrokeshire Lichen Group** has been formed with at least 20 active members. NNF3 funding paid for Jon Hudson's time to train some volunteers to do further transplant work using more windblown Tree lungwort. Basic tools eg staple guns have been bought for them. The volunteers have demonstrated a strong commitment to learning lichen identification, despite being one of the more challenging taxonomic groups.

1.4 Wildfire prevention

A new **Burning Plan** was produced by a consultant for **Mynydd Preseli SSSI / SAC**, to identify which areas should not be burnt for ecological reasons and which areas can be burnt as part of a suite of management tools to keep the SSSI features in favourable condition and reduce the risk of wildfire. The plan also informs where firebreaks should be cut for prescribed burning and to limit the spread of accidental burns.

The plan was ground-truthed and then put out to consultation with the relevant **Grazing Associations** through two separate Court Leets (one for each side of Mynydd Preseli) and at a drop-in event for graziers. The plan has now been adopted by the two Grazing Associations.

Firebreaks were cut on **Mynydd Preseli, Penlan and Mynydd Dinas**. Firebreak cutting was done on **Mynydd Castleblythe** in partnership with the North Wales Wildlife Trust, who are running a pilot INNS project in the area in partnership with PCNPA and needed access tracks to be cut. This photo shows a Brynberian firebreak during August, around 6 months after cutting.



1.5 Invasive Non-native Species

INNS treatment was done monthly during the spring, summer and autumn in the following catchments: **Cleddau Ddu / Eastern Cleddau, Wern, Clydach, Ceibwr, Pwll Granant, Gwaun, Nyfer / Nevern, Crymych, Brynberian** and at **Poppit**. Winter clearance by contractors was done at each site to clear scrub and create access for the work. During the growing season, contractors have used strimmers whilst volunteers have pulled balsam by hand. Landowners at Wern have done some of the work themselves. There is a supplementary report containing all the details of the INNS work.



1.6 Greater horseshoe hibernacula protection

Greater horseshoe bats have increased dramatically in North Pembrokeshire this century. A breeding site near Tudrath / Newport which had 50 adults in the year 2000 had 992 adults in 2025. As a result, many more underground sites are being used for hibernation now; and some of these are subject to disturbance, exacerbated by social media posts encouraging people to explore the sites. Every time someone enters a hibernation site, the bats will be woken up and will use up vital fat reserves in doing so. More than one such disturbance could jeopardise their survival.

Long-standing data sets from the Bat Conservation Trust's National Bat Monitoring Programme were used to determine where physical barriers to prevent disturbance would be most effective. The decision process took into account the number of bats usually

present, the level of disturbance (from physical evidence and social media coverage) and the feasibility of installing an appropriate feature. One of these sites was **Allt Clyn**, where the cave is clearly visible from the public right of way; the other was at **Llangolman**, where a right of way passes close by.

A local, fifth-generation blacksmith was commissioned to create traditional steel railings with lockable gates for these two sites, which were set a few metres away from the cave entrances so as not to interfere with bat swarming behaviour. (Five contractors had already turned down the work for being too difficult). The railings were made to fit exactly agains the slanting sides of the adits and had to be assembled on site. The Llangolman site is around 100m from a track, so everything had to be carried by hand over several fallen trees and then lowered carefully down an 8m vertical rock face.

The railings were no more than 2m high, with an overhang to make climbing difficult. The blacksmith made them from steel which was hot-dip galvanised, then primed and painted black to appear in keeping with the surroundings. The gates are secured with padlocks at the top and bottom so there are no footholds in between.

The work was completed in very good time, before there was any risk of disturbing hibernating bats. The railings are beautiful to look at as well as being feats of engineering. Work was done in consultation with PCNPA's Archaeologist and the Development Management team. A method statement for the works was approved by Natural Resources Wales, and everything was done under the advice of a licensed bat consultant.





St Nicholas' Church, New Moat, has a crypt which is used by around 25 hibernating Greater horseshoe bats each winter. The bottom third of the existing door had rotted away due to occasional rising groundwater: this had become the access point, as horseshoe bats are unable to crawl and have to fly into their roosts. When water levels rose, the bats were unable to fly in or out of the roost; and when waters subsided, it was easy for unauthorised intruders to get underneath. It was clear from footprints that this was occurring, which was

undesirable because of human remains in lead coffins in the crypt as well as disturbance to the hibernating bats.

A European Protected Species licence was obtained from NRW, as was a Faculty from the Church in Wales, to replace the old door with a rot-proof Accoya door with a bespoke bat access point well above the floodwater level. Local carpenters made the door to match the old one and a blacksmith made replica, galvanised hinges. The installation took place after the end of the NNF3 project because of the time needed for the NRW licence and Church in Wales Faculty to be granted (3 months and 9 months respectively); and the church made a financial contribution to the work. See left hand photo below.





Newport Castle is a Scheduled Monument with at least 5 bat species hibernating below the South Tower, including Greater horseshoes. A Cadw report in 2023 recommended urgent remedial works to remove trees and shrubs from the tower structure to prevent damage from wind rock. Further deterioration would have adversely affected bats, too. Voluntary surveys by licensed bat workers were undertaken to assess the site's potential for autumn swarming activity, as vegetation removal could potentially impact such behaviour.

A method statement was produced to minimise any adverse impacts on bats, dormice and breeding birds. This was agreed with NRW, avoiding the need for bat and dormouse licences. A tree surgeon completed the work during the winter using a bowsaw around the bat roosts (to prevent disturbance) and using carefully designed rigging to avoid damaging the Scheduled Monument. See right-hand photo above of the cleared tower. Just outside the castle walls, a hazardous veteran beech tree was cut into a 'monolith,' preserving dead wood habitat for wildlife, including crevice-dwelling bats, whilst protecting the adjacent historic structures. PCNPA's Archaeologist was closely involved with the projects. The landowner contributed half of the cost of the works.

1.7 Dormouse habitat work

The newly discovered dormouse site at Nanhyfer / Nevern had protective fencing put up around a substantial area of natural regeneration and tree planting for dormice and bats. An old gateway connecting two cattle-grazed pastures was reopened (with a ditch crossing installed) so that cattle would not have to move through the dormouse habitat. Pathways volunteers did fencing work at this site by hand, so overhanging branches and scrub margins could be retained.

2.0 Wildlife monitoring

2.1 Recruiting and training new volunteers

Before the start of the project, most of the Park's wildlife monitoring volunteers were retired professionals with a comprehensive knowledge of Pembrokeshire ecology. We have been incredibly fortunate that they continue to give their time to nature conservation but were aware that it was risky to have so much knowledge retained by a small number of people. One of the aims of Cysylltu Natur was to recruit new volunteers to wildlife monitoring, especially young people at the start of (or planning) their conservation careers.

A full day session was held at Sychpant and Penlan for young Butterfly Conservation trainees and Roots to Recovery participants. This included plant identification, habitat restoration (especially conifer removal), and how the whole of Cwm Gwaun is managed for the conservation of species with different requirements. The ecology of Marsh fritillaries, Dormice, Barbastelle and Greater horseshoe bats, lichens, ancient woodlands and species-rich grasslands were explored in detail.

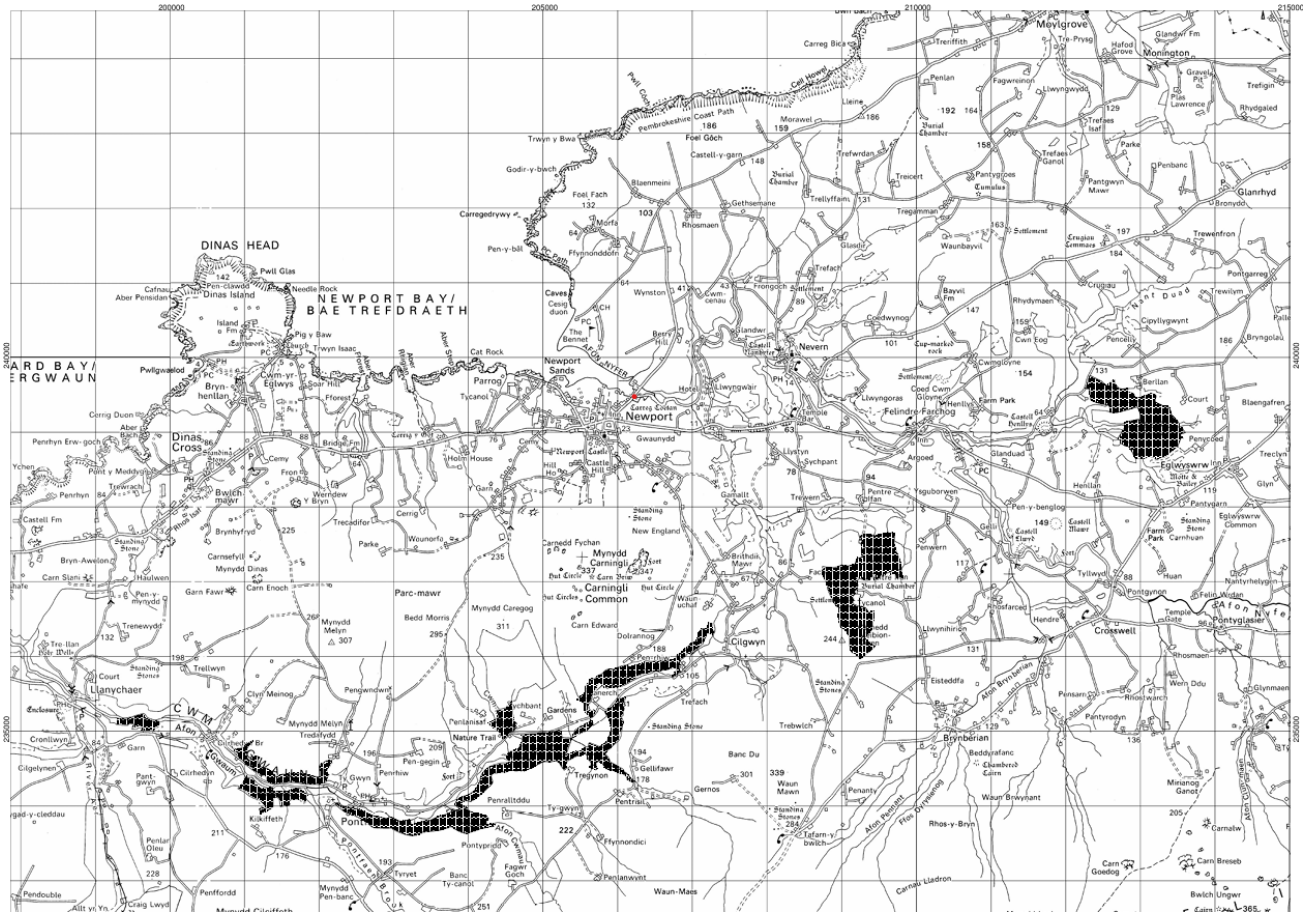
2.2 Woodland SSSI monitoring

There are 7 SSSIs in the **North Pembrokeshire Woodlands** SAC (see map below). The Countryside Council for Wales devised Common Standards Monitoring for woodland SSSIs, which were adapted for the North Pembrokeshire Woodlands. There are 10 stopping points per SSSI: a table is completed at each one based on the canopy, shrub layer and field layer. Notes are made as you walk from one to the other of anything significant e.g. an area of fallen trees, any invasive species etc.

NRW used to survey each SSSI in the North Pembrokeshire Woodlands SAC every 6 years to report to Europe, but lack of staff time meant that this had lapsed for nearly 10 years. NRW needs monitoring information to determine whether SSSIs are in favourable condition

or not. The woodland monitoring is simple enough to be done by volunteers, so this is an opportunity to contribute to helping to make sure SSSIs are being kept in favourable condition. For the sites that are managed by PCNPA, or where we give support to private landowners, it helps us to know what management is needed.

All 7 sites have been monitored by 4 new volunteers who are starting out on careers in nature conservation. The volunteers appreciated being a part of this significant work and can use the experience to help them find employment. One of the surveyors secured a full-time conservation job during the project but continued to volunteer in her spare time. The results have been shared with NRW, the Wildlife Trust for South and West Wales and with the landowners.



2.3 Training in woodland management for lichens

The Project Officer received training in habitat survey and management for lichens and then cascaded the learning to the Pathways team, so they can understand lichen ecology and how to manage trees and woodlands to benefit them. Lichen training was also passed on to two wildlife volunteers who have done their own **lichen transplants** under supervision. Further lichen transplant volunteers have been recruited through the new Pembrokeshire Lichen Group and trained by expert Jon Hudson. They are undertaking their own learning of lichen identification with mentoring from the group.

The project officer ran a half-day session on Ecology and Conservation at a Careers Day, with a practical exercise looking at lichen identification and the use of lichens as indicators of air quality.

2.4 Greater horseshoe bat monitoring

For decades, the Greater horseshoe hibernacula sites across North Pembrokeshire had been monitored by a single expert (the late, great Tom McOwat), accompanied by one or two licence holders. These include old mines, caves, quarry adits and cellars. Efforts are now being made to introduce a small number of committed licence holders to these sites, to spread the workload, increase the number of sites being monitored and ensure that knowledge of the hidden locations does not become lost. 4 new volunteers have been trained so far. The left-hand photo below shows a Greater horseshoe bat.

The Porthgain Tunnels, owned by the National Park Authority, are now being monitored again after a lapse of a decade or so. Greater horseshoes have increased to 41 here, from just a handful when they were last surveyed. All the data have been submitted to the Bat Conservation Trust for their National Bat Monitoring Programme.

During the autumn / winter of 2025-26, a swarming project was undertaken under a special licence, where bat species were caught and identified to increase our understanding of bat behaviour at winter roost sites. This has given valuable experience of handling and identifying bats in the hand (as opposed to using a bat detector) to several bat ecologists. It has provided new records of Brandt's bat, a species which can only be identified in the hand. The right-hand photo below shows a Barbastelle caught during the project – a new record for that site.

A school leaver was recruited to deploy and monitor a **wildlife camera** at the top of Foel Cwm Cerwyn, an energetic hike from her home. She changed over the batteries and SD cards at regular intervals and checked the footage for bat (and other wildlife) activity. She welcomed an opportunity to volunteer which did not require a driving licence. She has since gone to university with a hope to pursuing a career in ecology.





2.5 Barbastelle bat monitoring

Cysylltu Natur worked in partnership with Natur am Byth's (NaB) Barbastelle project officer to identify sites which had potential for Barbastelles, where landowners would not mind being approached about surveys. Several of our own volunteers were keen to get involved, to increase their range of skills and experience.

Static Anabat detectors were installed by PCNPA volunteers and the bat calls were analysed by the NaB project officer. One site at **Nanhyfer / Nevern** recorded Barbastelle, Greater and Lesser horseshoe bats. Bat boxes were later installed at the site by volunteers.

Static detectors were also deployed throughout PCNPA owned woodland throughout the North Pembrokeshire Woodlands SAC. Barbastelles were recorded at **Pentre Ifan, Allt Pengegin, Kilkiffeth and Sychpant** but not at Garn Wood; suggesting that the species does not forage as far as the western end of Cwm Gwaun. This forms a useful baseline from which to monitor future activity for the species. Volunteers from NaB and PCNPA put up bat boxes at **Sychpant** to increase roosting opportunities there.

2.6 Dormouse monitoring

At the start of Cysylltu Natur, there was only one licensed dormouse ecologist doing voluntary surveys in Pembrokeshire. To increase our survey capacity, four committed

mammal volunteers have now begun their **Dormouse licence training**. They have completed online courses and are progressing towards full licences by assisting with nestbox surveys alongside licensed volunteers. They are having to travel to Carmarthenshire for some of this training. An additional dormouse volunteer gained an NRW survey licence during the project.

Materials for new **Dormouse and Pied flycatcher boxes** were given to Milford Haven Comprehensive School. Students have constructed the boxes and learnt about the ecological needs of both species as a cross-curricular activity. Classroom help was given by the Pathways Officer.

Surplus **dormouse boxes** were donated by the Initiative for Nature Conservation Cymru. These were put up at a site in Nanhyfer / Nevern and were checked by a licensed volunteer (and trainee helpers) each month. To their delight, they found a juvenile dormouse in October 2024 (see photo below). This was the first verified record for the site, and it is especially exciting to discover a breeding population. It is a site with good connectivity to Pengelli Forest (where dormouse is a qualifying feature of the SSSI) and Tudrath / Newport, where there seems to be a good dormouse population. The same licensed volunteer does monthly dormouse box checks in Ty Canol SSSI / NNR and the Park owned Pentre Ifan Woods, which have confirmed their continued presence at both sites.





Dormouse footprint tunnels were then donated by a professional ecologist who no longer needed them, so these have enabled surveys to take place at an additional site, **Pentre Ifan**, a former Plantation on Ancient Woodland which has been restored to native broadleaves by PCNPA. The footprint tunnel surveys can involve a wider range of volunteers, as no survey licence is necessary for their use. See right-hand photo above.

Volunteers completed weekly visits to the footprint tunnels in Pentre Ifan throughout the summer and into the autumn, changing over the pieces of card, replenishing the charcoal and olive oil ‘ink’ and checking for dormouse footprints. Dormouse prints have been found in 7 of the 15 tunnels and in all the areas where tunnels have been put up, including where nestbox surveys have never yet obtained any positive results.

The tunnels have shown that dormice disperse over a wider area once they have finished breeding in the autumn, before going into hibernation. Moreover, the footprint tunnels are recording positive dormouse activity in areas where nestbox surveys have not. This could be because dormice do not always use nest boxes in high-quality habitat but will explore tunnels whilst foraging or dispersing. This information will help us to manage the woodland better for the species. An incredible 150 hours’ voluntary work was put into the dormouse footprint project during the summer of 2025. Results were sent to the People’s Trust for Endangered Species. A press release was published by the BBC and led to a live interview on Radio Cymru’s Galwad Cynnar.

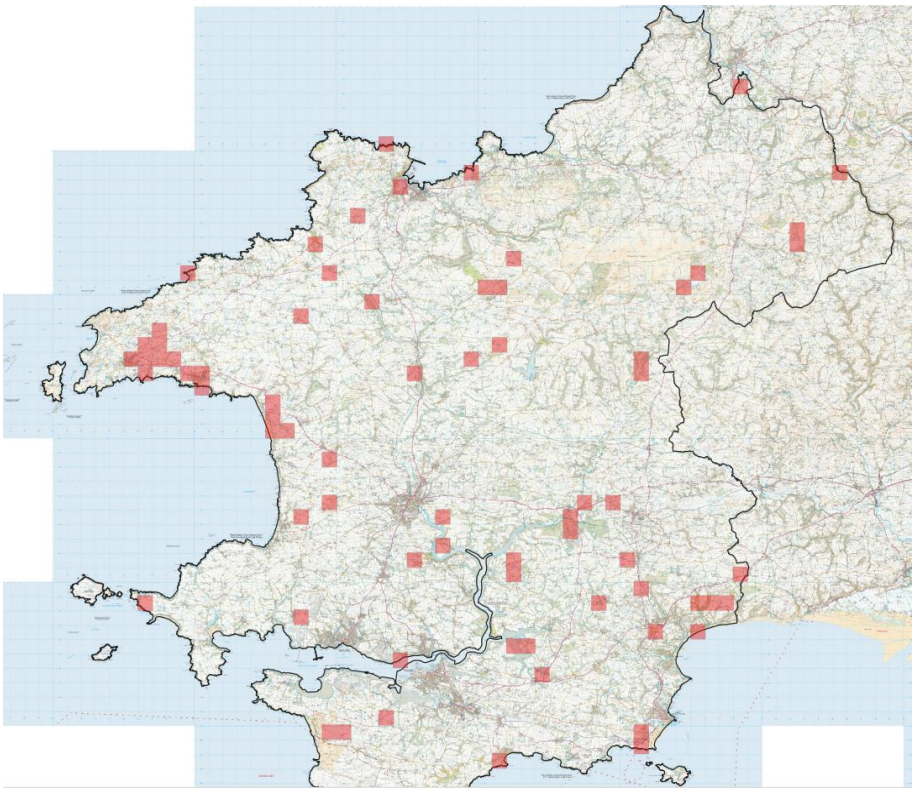
2.7 Harvest mouse monitoring

After receiving training from the **Mammal Society**, four volunteers started surveying Pembrokeshire for Harvest mice, looking for nests which have become empty after the summer breeding period. Another volunteer was recruited during the project. They are sent details of potential sites once permission has been received from the owners and they plan their surveys so as to establish presence or absence in each hectad (2x2km square) across the county.

They have included several sites with Marsh fritillary butterflies (and have looked for Marsh fritillary larval webs at the same time), as the two species often live on the same sites but have different management needs. The two species require different heights of vegetation and sometimes grazing levels swing in favour of one species over the other; or animals can selectively graze some parts of a site but not others. Both species ultimately lose their habitat if scrub encroaches, so the optimum management is to ensure that all areas are cut or grazed periodically, whilst maintaining a diverse structure at all times.

A total of 40 sites were surveyed for Harvest mice during this project, many of them more than once to determine presence / absence: as more records are discovered, we gain a better understanding of their distribution and abundance, which helps us to weigh up conflicting conservation requirements. Before this project started, we had no idea of harvest mouse distribution across Pembrokeshire and feared that they might have been lost altogether, as they have from many counties in Wales. We now understand that they are present across many parts of the county but seem to exist in isolated populations, which we must endeavour to connect through habitat creation or more sensitive management.

The map below shows each 1km square where Harvest mice have been recorded during the project.



2.8 Marsh fritillary monitoring

The project paid for training for all the volunteers who were interested. Volunteers have searched for both Marsh fritillary adults and larval webs across several sites. Record numbers of webs were found on Comin Casmael / Puncheston Common in 2025. Adults (and subsequently webs) were found at a site in Cwm Gwaun for the first time ever recorded in 2025. It is a key 'stepping-stone' site between other colonies. The farmer will put his cattle in to graze the area as soon as the site has been made stock-proof.

2.9 Chough monitoring

Choughs are a feature of many coastal SSSIs and SACs; and they also breed outside SSSIs at several locations. They need soft, short turf with a rich invertebrate population to forage over. Dung from grazing animals provides additional invertebrate prey. Chough nest sites and foraging areas inside and outside SSSIs all contribute to the resilience of the SSSI chough populations.

Volunteers undertake detailed observations at all the known chough nesting sites around the Pembrokeshire coast and write up the results in a detailed annual report which is sent

to NRW and PCNPA. The work used to be done by three expert ornithologists, so steps have been taken to recruit new volunteers to help with an increasingly unsustainable workload. PCNPA pays travel expenses to registered volunteers.

Roughly every month during the nesting season, two or so hours will be spent observing each nest site for signs of nesting behaviour, then feeding their partners on eggs, then feeding young in the nest and finally fledgelings leaving the nest. Autumn communal roosts are also counted. Data are then collated and analysed, and a comprehensive annual report is written. 72 volunteer days are spent doing fieldwork and report-writing each year. These observations help to inform PCNPA's management of the coastal strip through liaison with landowners and facilitation of grazing (either by their own stock or that of a third party).

Field work was completed each year and the volunteers have submitted two annual written reports on their findings. The full reports are kept confidential as they contain details of nest locations, but summary reports can be shared publicly. Three new volunteers were recruited to help with chough monitoring and have received training in identifying every stage of chough development from the two leading chough volunteers. They were all able to work independently during the project.

This comprehensive, long-running dataset is currently informing discussions about whether individuals from the Pembrokeshire chough population could be used for release at two proposed sites elsewhere in Britain—one for population reinforcement and one for reintroduction. Findings indicate that, although the Pembrokeshire population remains healthier than any other in the UK, productivity rates (the number of chicks successfully fledged each year) are not high enough to allow the removal of chicks for release. It is only through careful, sustained monitoring at each stage of the breeding cycle that such evidence-based decisions can be made.



3.0 Pathways volunteers

The **Pathways** volunteer team have delivered a large proportion of the practical works in the project, with an average of 10 volunteers attending each session and a regular intake of new members. The scheme provides opportunities for supported volunteering, where adults with additional learning needs can participate with their support workers or other National Park volunteers. There is always a waiting list to join the scheme and there is a significant number who progress to more independent working. They learn practical skills, gain confidence and grow to understand the reasons for doing their habitat and species conservation work. Here is a selection of the practical tasks they have undertaken:-

- Installed and repaired fencing and gates to allow grazing on rhos pasture and species-rich meadows;
- Fenced off regenerating woodland and scrub as a habitat corridor for dormice;
- Cleared scrub from marshy grassland and peatland;
- Repaired drystone walls and protected them with fencing;
- Ring-barked trees on peatland to provide standing dead-wood habitat whilst safeguarding peatland communities;
- Undertaken careful clearance of Ivy, Elder and Bramble from around important lichen trees, whilst retaining species such as Hazel and Willow with potential for lichens;
- Fenced off diseased Ash trees supporting rare lichens (including the only population of Tree lungwort which is actively expanding) to protect the public from falling branches, so the trees can be retained in the long-term;
- Laid one hedge to allow light to reach important lichen trees nearby; and another to prevent it from overhanging a track whilst retaining it as a flight line for Greater horseshoe bats.
- Planted out plugs of Devil's-bit scabious to increase the area of habitat suitable for Marsh fritillaries;
- Created a crossing point made of biochar connecting two peatland sites, to sequester carbon indefinitely and avoid the impossible problem of transporting heavy stone across very wet ground.



Volunteer task	**Total volunteer hours**
Pathways volunteers	2502
Other practical volunteers	983
INNS volunteers	408
Chough survey volunteers	555
Bat survey volunteers	174
Dormouse survey volunteers	314
Marsh frit & Harvest mouse volunteers	141
Woodland SSSI volunteers	156
Lichen transplant volunteers	18
Wildlife camera volunteer	8

4.0 Conclusion

The project has improved habitat management and connectivity while strengthening the evidence and volunteer capacity needed for ongoing nature recovery. New species records and renewed monitoring are already informing conservation decisions. Its lasting benefits will depend on maintaining grazing and habitat management, sustaining volunteer involvement and continuing monitoring to establish longer-term ecological outcomes.