Carmarthenshire Nature Partnership Report on Action

January – December 2022

Partneriaeth Natur
SIR GÂR • CARMARTHENSHIRE
Nature Partnership

Introduction

The Carmarthenshire Nature Partnership is made up of a number of partners with a depth of knowledge, experience and enthusiasm for the county's biodiversity. It is facilitated by the Council's Biodiversity Officer and has been established for over 20 years.

Carmarthenshire supports a rich mosaic of different habitats making up our landscapes, most of which have been influenced by a long history of human activity and land-management practices. Whether they cover large or small areas, all our varied habitats, and the species that live there, add to the richness of biodiversity in Carmarthenshire. They all contribute to our experience of living here and also to the economy of the county, the health and well-being of our citizens, the provision of food, clean water and air, and to our local culture. A healthy natural environment is a vital part of a sustainable, resilient and distinct Carmarthenshire.

However, the State of Nature in Wales 2019 report identified that there has been a considerable change in Welsh wildlife in recent decades with evidence of the overall decline in the diversity of species and the extent of natural and semi-natural habitats. The State of Natural Resources Report (SoNaRR 2020) published by NRW recognises the complexity in the detail of the biodiversity assessment contained in the report, whilst noting that "the overall trend is one of serious decline, reflecting the global situation and internationally recognised nature emergency". This is reflected in Carmarthenshire.

After the Senedd declared a Nature Emergency in Wales 2021 and recognised that the nature and climate crises are inextricably linked, Carmarthenshire did the same in 2022. Also in 2022, the WG Minister for Climate Change, working with a group of key experts and practitioners, undertook a 'Biodiversity Deep Dive' to develop a set of collective actions we can take in Wales to support nature's recovery. The '30x30' target was chosen as a strategic focus and refers to protecting, and effectively managing at least 30% of our land, freshwater and sea for nature by 2030, by improving the condition, connectivity and resilience of protected sites, designated areas and other key areas that deliver biodiversity outcomes. A key recommendation in the Deep Dive identified the need for capacity building, behaviour change, awareness raising and skills development across the sector. Local Nature Partnerships (LNPs) were recognised as a key network in supporting collaborative partnership action for nature recovery at the local level and the intention is to provide funding to support LNPs in Wales. There is a recognition that nature recovery will require a society-wide approach to deliver for nature and for people.

30 x 30 is one of a number of targets which will form part of a new Global Biodiversity Framework agreed at the 15th Conference of the Parties to the United Nations Convention on Biological Diversity (COP 15) in December 2022. At a previous online meeting (COP15, part 1) there was a commitment to put the world's biodiversity on a path to recovery by 2030. At the December meeting a priority is working towards finalising the Global Biodiversity Framework.

All of this will ultimately influence our work at the local level, including the updating and delivery of the Carmarthenshire Nature Recovery Plan.

A 2019 intergovernmental report (IPBES assessment 2019) has also shown the strong interrelationship between climate change, the loss of biodiversity and human wellbeing. Any local framework to address climate change should consider the impact on Carmarthenshire's biodiversity and also consider how our natural environment can help with mitigation and adaption to climate change. We cannot solve the threats of human-induced climate change and loss of biodiversity in isolation. We either solve both or we solve neither.

The work of the partners, and the projects they undertake, deliver outcomes that help to conserve and enhance our natural environment and often deliver multiple benefits that improve the well-being of the people that live here. Their work contributes to objectives and outcomes of a number of national and local plans with goals for the natural environment. These include:

• The Carmarthenshire Nature Recovery Plan which contributes to the national biodiversity strategy and action plan for Wales working to reverse the decline in biodiversity in Wales and build the resilience of our ecosystems. The Carmarthenshire Nature Recovery Action Plan has a focus **on** ecological resilience with connectivity as a central theme. This is part of a vision to restore and create better connected networks of habitats within the county.

• Carmarthenshire County Council's Well-being Objectives and the Carmarthenshire Public Service Board's Well-being Plan.

In addition, The Environment (Wales) Act 2016 puts into place a duty to plan and manage our natural resources. This includes a duty to require all public bodies, when carrying out their functions to seek to 'maintain and enhance biodiversity' where it is within the proper exercise of their functions and seek to 'promote the resilience of ecosystems'. The Council has prepared a Forward Plan to evidence how it will integrate this legislation into the delivery of its services, which has been reported on to WG.

Local Nature Partnerships are a key delivery mechanism that can help provide local focus and delivery of all these aims. In 2022 a State of Nature report for Carmarthenshire was drafted and will be published in the first half of 2023.

Local people can make a difference as well and it is a role of all the partners to raise awareness and work with communities on projects that benefit biodiversity – and the people involved.

This is a summary of just some of the achievements of the partners in 2022, often working together, to conserve and enhance Carmarthenshire's diverse range of habitats and species.

THE CARMARTHENSHIRE NATURE PARTNERSHIP

The **Initiative for Nature Conservation Cymru** (INCC) continued to carry out work within the Amman Valley this year to improve the area for nature. This has involved partnership with, amongst others, the local Town Council, the County Council, the National Botanic Garden Wales and Brecon Beacons National Park. Being based in the Valley INCC has built relationships with local landowners and this engagement has resulted in landowners agreeing to a range of habitat improvements on their land, from installing bird and bat boxes to the initiation of cattle grazing in marshy grassland and improved meadow management. The latter project received funding via the CNP from the **WG Local Places for Nature** funding to using green hay from suitable species-rich 'donor' sites in the valley on local 'receptor' sites to enhance their biodiversity valley. These will be monitored in 2023.

INCC staff and volunteers spreading locally collected meadow seed onto grassland of low species diversity in nearby landholdings.

Local graziers and contractors have also been integral to project work, carrying out tasks such as fencing to facilitate cattle grazing and also being a source of suitable livestock. As a result a network of local landowners has been set up that can undertake 'lookering' duties around the valley, to monitor livestock.

There has been a lot to excite **Bumblebee Conservation Trust** in Carmarthenshire in 2022. A priority (Section 7) bumblebee, the Ruderal bumblebee (*Bombus ruderatus*) was rediscovered in the county after a multi-decade absence, during which time it was thought to have effectively vanished from Wales. A number of records were made around both the Brechfa and Rhandirmwyn areas. It appears as though Ruderal bumblebees have been here, undiscovered, for many years, living within areas of flower-rich roadside verges and meadows. Their survival here in the face of declines nationwide is most likely a consequence of the low intensity, low stocking density grassland management that occurs in the area that allows wildflowers to flourish.

In addition, another rare species, the Bilberry bumblebee (*Bombus monticola*) has been identified on Mynydd Llanllwni and Broken-belted bumblebee (*Bombus soroeensis*) has now been now recorded in Carmarthenshire, on a site near Brechfa. There may well be more to discover.

Carmarthenshire County Council received **WG Local Places for Nature** grant funding to carry out work at an interesting council-owned site close to the estuary at Kidwelly Quay, well used by local people.

Local contractors worked to restore an area of silted up pond to return it to open water with immediate positive effects. As well as improving the amenity value for visitors, it will now provide suitable habitat for otters, which we know are present in the area. An area of the silted up pond was left untouched as it has become interesting 'fen' habitat and together this, along with the open water, the scrub on the island and the bankside 'emergent' vegetation now forms an interesting 'mosaic' of habitats that will benefit a range of species.

In addition, new access into an adjacent field, which was previously heavily grazed will mean that an area will be planted with trees and fenced off. This will allow the remainder of the field to be 'conservation grazed' with the aim of restoring a species-rich grassland. In the long term this site could become another Local Nature Reserve – forming part of a 'nature network' of sites along the Carmarthenshire coastline being managed for biodiversity by the council.

The **Coed Cymru** officer in the Council's Conservation Section has advised on woodland management work at three County Council sites this year. As a result felling licences for the clear fell of windblown conifers and restocking with native broadleaves at Llyn Llech Owain; thinning of pine at Mynydd Mawr Woodland Park and coppicing at Ynysdawela Nature Park have been issued by NRW for completion over the next 2 years.

Glastir Woodland Creation plans have been approved for three Council sites (in Ffairfach, Llandybie and Kidwelly) and tree planting of approximately 4.5 Ha at these sites is planned this winter. A further nine Council-owned sites have been identified as having potential for woodland creation and habitat surveys are ongoing to confirm whether these are suitable for tree planting. Glastir Woodland Creation plans have also been prepared for a further two private landowners, totalling around 2 Ha of new native woodland. The Coed Cymru Officer has also advised on various planning applications affecting woodlands within the county and is contributing to the development of a new tree strategy for the Council.

Because of links with the Carmarthenshire Nature Partnership, **Dŵr Cymru Welsh Water** (DCWW) was made aware of the opportunities for seed harvesting through the work of the National Botanic Gardens of Wales. DCWW was invited by the NBGW to learn about the meadow management at the Gardens and has since rolled out the best practice used by NBGW across their grounds maintenance regime. This contact also led to a partnership where DCWW collected a trailer full of green hay from the NBGW to spread at a number of their sites - the prime one being Llys Y Fran reservoir (Pembrokeshire). Volunteers from the local area were invited to help with the spreading. This partnership approach would not have been possible without the connections made via the CNP, and the opportunity to learn from other organisations and experts about how DCWW can continue to improve biodiversity on a large scale across their sites.

Llys-y-frân partners with National Botanical Gardens of Wales for wildflower meadow biodiversity project

At **Llyn Llech Owain Country Park** Funding from Welsh Governments **Nature Network** Fund has allowed radical intervention in the management/restoration of internationally important heath habitats. A significant area of failing the lodgepole pine was cleared from the site; this will allow restoration of heathland which had been planted up with conifers in the past.

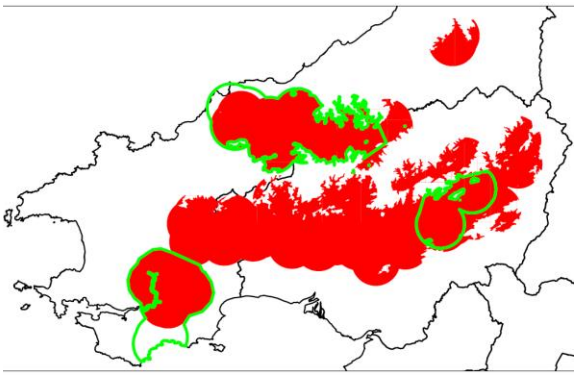
A habitat survey has been completed and the report is awaited, which will inform the future management of the site. A range of species surveys were undertaken and established what was suspected - Llyn Llech Owain is a species-rich site. Dormouse were confirmed, so the management of the woodland here will take on board the recommendations in light of the presence of this protected species. Around 125 moth species were identified and also the rare hazel gloves fungus (*Hypocreopis rhododendri*) - a priority species in Britain that occurs on old hazel trees.

Heathland areas have had differing management prescriptions applied to them with a mix of mowing and cutting at differing heights and bracken rolling over any area of bracken that could, safely, be reached. Cattle and ponies will be resident over the autumn and winter period to take over management responsibilities!

Grant-funded work through the **Welsh Government/Heritage Lottery Fund Community Woodlands grant**, commenced in 2022 at **Mynydd Mawr Woodland Park**, and whilst early work focused on access, management of the main meadow started in September using various methods. An area was managed by a cut and collection of arisings, another area was mulched to control invading willow, and three "islands" were created using the cut and collect method. The success of all of these methods will be monitored next year. In addition two ephemeral scrapes were created – important for a range of invertebrates.

In addition a new 0.4 Ha woodland will be created by planting of early-flowering trees and shrubs to provide the first supplies of nectar and pollen for local pollinators. Ecological surveys were carried out a to provide baseline data of the range of invertebrates across the meadows and coal spoil habitats in the park. These have highlighted the value of the site - species not previously recorded in the county have been identified. With so little unvegetated coal spoil in the county this provides a good opportunity to manage the habitat to enhance it as much as possible for the species it supports.

Due to staff constraints **Butterfly Conservation** ran the Brown Hairstreak project entirely by their team of 12 regular volunteers. This once again highlights the importance of the valuable volunteer effort to nature conservation in Carmarthenshire. For this project this led to 64 sites being visited over 23 days last winter, the equivalent of 150 person days of volunteer time. In most cases this involved including meeting and chatting with owners or tenants, and a number of smallholders showed considerable interest in the project and the butterfly. This resulted in several small farms promising to relax their annual hedgerow flailing regime. This survey was support through funding from WG through the CNP.



Comparison of models of occupied landscape area in 2009 based on records from 2000 to 2009 (solid red colour) and occupied landscape area in 2019 based on records from 2010 to 2019 (outlined in green). In both, modelling includes land within a 5kms radius of each relevant record but excludes land > 200m asl.

The issue of uncontrolled hedge flailing was highlighted by some landowners when their hedges were cut without permission. Mechanical flailing of a hedge or scrub with young blackthorn shoots has been shown to remove 80-90% of eggs – devastating for the butterfly's survival.

Over the last 5 years, Butterfly Conservation have noticed an overall shrinkage in the occupied range of the brown hairstreak butterfly in south-west Wales (they are now thought to be extinct between Whitland and Broad Oak), but expansion in numbers on sites in the far west (between Cilgerran and Cardigan). The overall range shrinkage is best illustrated by landscape area model illustrated here.

Carmarthenshire remains the strongest Welsh county for the Marsh Fritillary butterfly and in addition to the Caeau Mynydd Mawr Project area, monitoring by volunteers continues across Amman Valley and other important sites around Ffarmers, Harford, Brechfa, Trelech, Alltwallis and Llandeilo.

Over the past decade, camera technology has improved drastically as well as becoming more affordable. This has been a lifeline for groups such as the **Mid Wales Red Squirrel Partnership**, as a few years ago, the project relied on infrequent Red Squirrel sightings to be reported to the partnership in order to know where the animals were, and that they were surviving. Sightings were infrequent and sometimes unreliable. The only way to check the status of a population was to go in with live capture traps, which both high effort and high disturbance to the squirrels themselves.

This was one of the first images of red squirrels in Cwm Rhaeadr

Camera traps changed all that. Now, the project relies heavily on camera traps (the project has around 100), using them to confirm and monitor red squirrels in a less invasive way.

In the Carmarthenshire Rhandirmwyn has long been a key location in the Red Squirrel Project. Despite the dedicated work of key volunteers and sightings of Red Squirrels in or near the village for many years, there were no new sightings from late 2020 into early 2021, and camera traps were unsuccessful. It was thought that this was due to forestry activities close to the village, and the Red Squirrels just shifting nearby.

Then the project was lucky enough to record reds in Cwm Rhaeadr forest – and the elusive Pine Martin. The aim was to trap the reds and use DNA analysis find out how related they are to those elsewhere in the Mid Wales forests where the project is based however, this did not happen as the Red Squirrels disappeared from here too during the drought this summer. Once again the mid Wales Red Squirrels are proving elusive.

The **Big Meadow Search** (BMS) project was developed by the **Carmarthenshire Meadows Group** steering committee and launched in 2021. The initial aim was to record plant species across a range of grassland types including meadows, woodland rides, churchyards, amenity grasslands and road verges. The project has evolved and now has a broader remit. Using social media channels, the BMS are raising awareness of the importance and variety of grassland plant species, providing identification tips, and highlighting specific associations between plants and other species such as invertebrates and fungi. The project does not overlap with existing botanical

schemes such as the National Plant Monitoring Scheme (NPMS) or Plantlife's Rapid Grassland Assessment.

To date the BMS has engaged with meadow groups, landowners, local environmental records centres (LERCs), local nature partnerships, botany groups, Wildlife Trusts and trunk road agencies. The BMS continues to promote the project UK wide and are currently working on a book that will feature plant identification and plant associations. In 2023 the project plans to increase the number of grassland sites searched and increase the number of plant records generated. All records are shared with the relevant LERC to maximise the project output.

More information can be found at www.bigmeadowsearch.co.uk, @bigmeadowsearch on Twitter and on the Big Meadow Search Facebook group.

The **Natural Resources Wales** (NRW) **Four Rivers for LIFE Project** was launched in October 2022 and will protect, enhance and help restore the Rivers Teifi, Tywi, Cleddau and Usk (all designated Special Areas of Conservation (SAC). It will work in partnership with a range of organisations, Brecon Beacons National Park Authority, River Restoration Centre, Agriculture Research Centre Manager (ARC) Coleg Sir Gâr and Woodland Trust. The project is funded by the EU LIFE Programme with additional financial support from Welsh Government and Dŵr Cymru Welsh Water. The project will also be working closely with wider groups such as the Carmarthenshire Local Nature Partnership. The project will also be looking to engage and work closely with wider groups such as the Carmarthenshire Local Nature Partnership.

An estimated 776 km of river will be improved with over £9 million injected in to tackling urgent conservation challenges over the next five years.

In Carmarthenshire, the project will focus on restoring the River Tywi SAC. This will include:

- improving river habitats and conditions for migratory fish,
- restoring natural river processes such as meanders, wetlands and floodplain areas,
- working with farmers to protect river corridors and reduce sediments and nutrients from entering rivers,
- reducing the impact of invasive non-native species like Himalayan Balsam, American Skunk Cabbage, and Giant Hogweed in the river.

To find out more please go to the project website www.naturalresources.wales/4RiversforLIFE

The **Wildfowl and Wetlands Trust's** (WWT) Llanelli Wetland Centre in Penclacwydd is on the north shore of the Burry Inlet, an area regarded as the most important estuary for waders and wildfowl wholly within Wales. It is situated one of the main flyways for migratory birds, with numbers peaking at more than 50,000 in winter.

In 2022 WWT completed their Lagoons project, which created new wetland habitat and enhanced the existing saline and freshwater lagoons.

As part of the project, a natural water treatment system was created to improve water quality, and islands were re-profiled and created to make them attractive to nesting and feeding waders as well as to the black-headed gull colony. Deeper areas were created for diving ducks such as pochard and tufted duck, and sand martins have now colonised a new, artificial nesting bank.

In other areas of the reserve WWT have worked in partnership with **Pori Natur a Threftadaeth** (PONT- the Welsh grazing animal project), introducing grazing to new areas to improve the grassland habitats. Working with the Amphibian and Reptile Conservation a giant willow grass snake sculpture and hibernacula has been created on the reserve, which was filled with cuttings from the wild flower meadows.

WWT will shortly be commencing a 5-yearly review and rewrite of the WWT Llanelli Reserve Management Plan – which will inform work over forthcoming years.

Rhydyglyn is a mix of woodland, pasture, and marshy grassland and has been passed to the **Wildlife Trust of South and West Wales** (WTSWW) to manage. The site is close to other WTSWW sites - Talley Lakes and Caermalwas Fach and located in an area where it is predominantly improved or heavily sheep-grazed grassland, resulting in few opportunities for wildlife. The site sits between several locally important populations of the marsh fritillary butterfly and provides a perfect opportunity with suitable management to improve connectivity within the local landscape.

The site is currently suffering from lack of sensitive management with the marshy grassland is neglected and undergrazed, whilst the accessible drier fields are heavily overgrazed by a flock of sheep. With help from the **WG Local Places for Nature Grant**, via the Carmarthenshire Nature Partnership, the Trust are working with a local contractor, to manage encroaching bramble scrub and start restoring the

marshy grassland. *Molinia* (purple moor-grass) tussocks, which are growing to a size so that other vegetation is being swamped, including the Devil's Bit Scabious, will be cut back. A grazing report from **PONT**, an organisation that promotes conservation grazing will also be produced. Recommendations from this will help inform the follow up grazing across the site, necessary for its ongoing sustainable management.

In partnership with the Millennium Seed Bank's UK Threatened Flora Project, the **National Botanic Garden of Wales** has been continuing to collect seed from scarce and declining plant species across Wales. The seed is processed and stored in NBGW's Science Centre in the National Seed Bank of Wales labs, with half of each seed collection sent to the Millennium Seed Bank. In 2022 CNP partners have helped have facilitate locating populations of target species and in securing collection permissions in Carmarthenshire and beyond. Collections in Carmarthenshire this year have included Wood Bitter Vetch (*Vicia orobus*) and Glandular Eyebright (*Eurphrasia anglica*) from RSPB Gwenffrwd Dinas, Small Water-Pepper (*Persicaria minor*) from Dinefwr oxbow lakes and Prickly Saltwort (*Salsola kali*) from Pembrey.

The count for biological records for Carmarthenshire held by the **West Wales Biodiversity Information Centre** increased from 1,163,421 in January to1,242,142 in September (including *c.* 58,000 records in one quarter which is much higher than usual). In 2022 WWBIC held two recording days for county recorders on farms at Llangynin and Myddfai – these are an opportunity for some focused recording by the county experts at identified important sites and can provide valuable records on privately owned land which is little visited. In all this year, WWBIC have received records from a number of Carmarthenshire Vice-county recorders; David Bannister, Sam Bosanquet, Theresa Greenaway, Richard and Kath Pryce, as well as other important records for the county from several other recorders. Significant amongst these were a large number of bat records from Denise Plume who WWBIC assisted with the creation of the Carmarthenshire Bat Atlas last year and which went up on our website in January 2022.

Wildlife recording at St Teilo's Church, Llanddowror

An important role of WWBIC is community engagement and five recording and training events were held, funded as part of the WG Local Places for Nature grant. 'Better Understanding of Neighbourhood Wildlife' consisted of an introduction to biological recording followed by a recording wildlife walk at sites around the county Morfa Berwig, WWT Llanelli, and three

churchyards involved in the EcoChurch scheme at Llanddowror, Llansteffan and Abernant. A good number of species records were generated at each site, guides to churchyard lichens were donated to each of the three churches, and it was an opportunity to discuss how the churchyards could be managed.

The **Botanical Society of Britain and Ireland** had a very successful and enjoyable recording week based at Glynhir in early July. This annual event in Carmarthenshire hosted BSBI members from as far afield as Norfolk, Hertfordshire and Cheshire.

The highlight of the week was the re-discovery, by an eagle-eyed 11-year-old of the protected and very rare Fen Orchid (*Liparis loeselii*) during a visit to the MoD Establishment at Pendine. The species had not been seen in Carmarthenshire since 2002. Since then, Natural Resources Wales and the MoD have been striving to return it to its former condition to encourage its re-establishment. In all six plants were found by the party.

Fen orchid © R.Pryce

Recording visits were made to most parts of the county during the year. However, it was very sobering to find that several uncommon species targeted for monitoring were not re-found, despite observers being able to return to their precise locations. A number of factors may have contributed to their demise, probably most significantly, atmospheric pollution, habitat management changes and habitat loss due to neglect or agricultural improvement. The findings of the BSBI's recording are symptomatic of the long overdue recognition of the 'Nature Emergency' that our natural environment is facing, which appears to becoming more severe at an ever-increasing rate.

The Dynamic Dunescapes project along the Carmarthenshire Coast continues. Supported by National Lottery Heritage Fund and delivered in Wales by **Natural Resources Wales** (NRW, working alongside Carmarthenshire County Council's Outdoor Recreation Service to improve the condition of these dunes for wildlife.

NRW have organised the removal of significant areas of invasive plants, including sea buckthorn, which are damaging the health of the iconic sand dune system at Pembrey Forest and Country Park. This will help to create a better environment for wildlife and rare plants and ensure that this coastal landscape is more resilient to future challenges such as climate change.

Coastal sand dunes are listed as the habitat type most at risk of biodiversity loss in Europe, and in many cases the decline in habitat health is due to uncontrolled vegetation growth. Scrub

smothers the sand dunes so scrub removal will help to restore the habitat types that the specialist sand dune species need. Improving the ecological condition here will increase this coastal landscape's resilience to other threats, such as extreme weather events and changing conditions brought on by climate change in the future.

Dynamic Dunescapes is not the only project working to restore Pembrey's important sand dunes. The EU LIFE-funded Sands of LIFE project, managed by NRW, has also been undertaking sand dune management to improve conditions for wildlife in recent years. The two projects work closely to build on and support each other's work.

NRW are also working with the Wildlife Trust of South & West Wales (WTSWW) on Cors Goch, Llanllwch National Nature Reserve (NNR) and now have an agreement in place to undertake bog restoration works within the next 5 years. The WTSWW have commissioned scrub clearance and the cut and collection of areas of *Molinia* tussocks through the Nature Network Fund, with low elevation bunding and ditch blocking planned through NRW's Peatland Action Programme fund.

NRW are working with the National Trust to get an agreement in place for Dinefwr NNR, which will enable a range of work on the site, including management of the ox bow lakes, rhododendron removal, development of a tree nursery, and fencing to enable management of the floodplain meadows.

Two agreements are in place for Caeau Afon Gwili SSSI to support positive management of this designated site, including extensive scrub removal to try to restore species-rich grassland.

In order to help find out more about the bat species in the county and boost the number of records, the volunteer-led **Carmarthenshire Bat Research Project** produced a Bat Atlas at the end of 2021 working with the West Wales Biodiversity Information Centre (WWBIC).

In 2022 the Project has built on this by undertaking valuable survey work. Between May and the end of September survey work was undertaken to fill in some of the gaps in our county's bat records. Well-planned routes were driven at 15mph which recorded bats using Anabat bat detectors whilst making notes of other nocturnal animals (dead or alive) along the route. This is a successful way of collecting large numbers of records very quickly as each survey generated approximately 80 records, amounting to 60% of the total records collected this year.

In addition garden surveys with detectors deployed for between 3 and 7 days, provided the project with knowledge of local bat

Harp trap © Denise Plume

species. In total 19 surveys were carried out generating 760 records and 8 species.

The other important survey method performed was to capture bats under licence. Even though less records are produced, it helped identify and confirm some of the more 'difficult' species such as the *Myotis* group of bats; it also provided us with additional knowledge of why bats were using each site.

Using these methods a total of 2519 bat records were generated.

Facebook
Link: https://www.facebook.com/profile.php?id=100080646277972

In 2022 the **West Wales Rivers Trust** (WWRT) were supported to undertake fish passage easements by NRW's Strategic Allocated Funds, granted to WWRT through Afonydd Cymru. This allowed valuable work to take place on the Afon Lash, Loughor consisting of:

- Alterations to the bedrock barrier (notching) to create a flow pathway for upstream migration fish to follow, and addition of timber baulks to deepen the pool below the falls.
- Pre barrage installation in front of the bridge sill, which decreased the height fish needed to jump to reach the upstream spawning grounds.
- Timber baulks were added to the shallow bridge sill, to increase the water depth allowing easier passage upstream and downstream.
- Reconfiguration of two block stone weirs. Here the mass of collapsed block stone forming the original weirs were reconfigured to form a suitable passage for fish species.

The works at Afon Lash have successfully improved fish passage, however there are still opportunities for natural flood management and control of run off from the land. During works it was noticed that the Lash suffers from sedimentation and episodic water quality problems which require further investigation in the upper catchment.

Fish passage easements
**Images have been taken by staff and volunteers in various river heights. Please note some have been taken in extremely low water **