

Conservation Team Report 2018 - 2019



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1. Introduction

This report covers the work delivered by the Conservation Team of the Wildlife Trust of South and West Wales (WTSWW) during the financial year 2018 - 2019. It covers the full breadth of work undertaken by the team, including both core funded activities and fixed-term grant funded projects. It aims to capture and celebrate the ongoing work that is done every year, and recognise fully the huge effort made by the team in simply maintaining the present condition of our many and glorious nature reserves, as well as the new and innovative projects. Neither would succeed without the other, but so often, that which is routine is neglected, when we speak and write about our work. Many of our fixed-term projects produce reports of their own, and more detail on any area of work included in this report is available on request from the member of staff involved. More detailed project reports are also published on our website. Contact details for all the team members are available below.

This report is written by all the members of the Conservation Team and their volunteers, and compiled and edited by Lizzie Wilberforce, Sarah Woodcock and Kerry Rogers

1.1 Members of the conservation team

This year saw quite a few changes to our team.

Lily Ginns our 2017-18 placement student completed her project with us, and went on to her final year at Cardiff University. We are indebted to Lily for all her support, and the hard work she contributed to the team over the year- particularly with the delivery of our NRW funded Local to Landscape Links project. This year we welcomed Victoria Shone as our 2018-19 placement from Nottingham Trent, and she has written a piece later in this report.

Tara Daniels, our West Glamorgan's Wild Woodlands Project Officer, finished her project in September 2018, and moved into the role of Conservation Officer for Neath Port Talbot (3 days) and Volunteer Coordinator for the Local To Landscape Links project (2 days).

We waved a very sad goodbye to Skomer Wardens Ed Stubbings and Bee Büche after six years of incredibly hard work on the island. They left in February 2019 after a handover period with new wardens Sylwia Zbijewska and Nathan Wilkie, who started in September 2018, joining WTSWW from their previous island roles on the Calf of Man.

Nia Stephens, our People and Wildlife Officer at the Welsh Wildlife Centre, moved on to pastures new with NRW in May 2018, and we were delighted to welcome her successor Gretchen Taylor to the team later that summer.

Seasonal contracts issued during 2018-19 included the Skomer Assistant Warden (Sarah-Kay Purdon, who we were pleased to welcome back to our staff team for her second season), and our Skomer Field Worker post (Julie Riordan). Hannah Meinterzhagen, who had volunteered with WTSWW previously, joined the Skomer team as the 2018 Guillemot Monitoring Officer in partnership with Sheffield and Exeter Universities.





At Cardigan Bay Marine Wildlife Centre (CBMWC), the Living Seas Wales project was formally launched in the summer of 2018 (in partnership with North Wales Wildlife Trust). Laura Evans moved from her existing CBWMC role to join the project team, and Bev Phillips joined the team as Living Seas Engagement Officer. Sarah Perry (also working on the Living Seas Wales project) became our Living Seas Manager.

At the start of the 2018-19 year, WTSWW formally merged with Brecknock Wildlife Trust. The Wild Communities Project was in its final year and was successfully completed (see later in this report) and we give our thanks to Chris Jones, Pauline Hill, Sarah Ogilvie and Tam Lipman for their enthusiasm in delivering this fantastic project. We are pleased to welcome Pauline Hill in to her new role as People and Wildlife Officer in Brecknock.

Whilst not a staff member during this period we carried out the recruitment for a third Conservation Manager and welcomed Kerry Rogers to the role, leading the delivery in Bridgend, the Vale of Glamorgan and Cardiff. Kerry came from a senior conservation role in NRW but has a history with the Wildlife Trusts having been the Otter and Rivers Officer in 1999/2000 based at Tondy. We welcomed him back in to the fold in May 2019!

The contact details for each team member are given below.

Conservation Team Staff April 2018 – March 2019 inclusive

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Bee Büche

Skomer Warden (until February 2019)



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Tam Lipman
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Hannah
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Sarah Ogilvie
Wild Communities Project Assistant (until November 2018)



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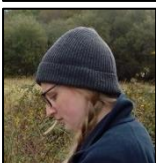
Bev Phillips
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Victoria Shone
Placement Student 2018-19



Eddie Stubbings Skomer Warden (until December 2018)



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Nathan Wilkie Skomer Warden (from Sept 2018)
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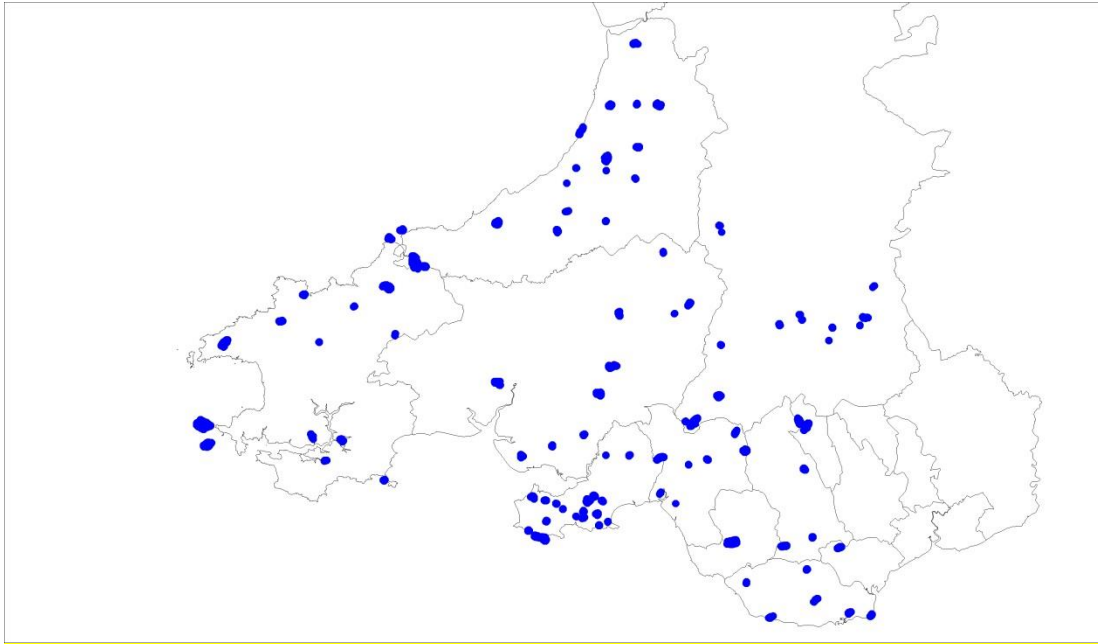


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1.2 Our assets

The assets for which the Conservation Team are responsible grew during the 2018-19 financial year largely due to our merger with Brecknock Wildlife Trust.

We are now responsible for 110 nature reserves (if our south Gower coast sites are considered individually), totalling 1825 ha of land. A spreadsheet of our holdings and tenure details is held by Nigel Ajax-Lewis and all our land is submitted each year to Welsh Government on a Single Application Form, all our land being registered on their IACS system (with the exception of common land). The map overleaf shows the distribution of the reserves (accurate at 01 April 2019).



WTSWW nature reserve locations on 01 April 2019

1.3 Our funders

The Conservation Team continue to benefit from a wide range of external funding sources, which are critical to our ability to deliver the range and breadth of work that we seek to achieve. We are particularly grateful for the substantial funding that we receive from the players of People’s Postcode Lottery, which supports the management of nature reserves and much of our people engagement work, especially marine outreach via Cardigan Bay Marine Wildlife Centre (CBMWC).

We were also fortunate to benefit from a number of very generous legacies and individual and local group donations to the Trust, both restricted and unrestricted, which supported our conservation work, but which we do not list individually in this report. Many of the Wildlife Trust’s own Local Groups have given substantial sums this year to specific conservation projects, for which we are incredibly grateful.

We are grateful to the following *grant and corporate funders* for their support during 2018-2019. We would also like to extend our thanks to those grant foundations who did not wish to be named but who have made significant contributions to key projects during the year.

Amphibian & Reptile Conservation
 Arwain (WG RDF)
 The Beryl Thomas Animal Welfare Fund
 Bridgend County Borough Council
 Carmarthenshire County Council
 Ceredigion County Council
 The Co-operative
 Dale Sailing
 Dolphin Survey Boat Trips
 Dow Silicones Ltd.

Dŵr Cymru Welsh Water
 EH Smith Builders Merchants
 Enovert Community Trust
 Freshwater Habitats Trust
 Gower Landscape Partnership
 The Green House, Llandeilo
 The Heritage Lottery Fund
 JNCC
 Llanharan Community Council
 Merthyr Tydfil County Borough Council

The National Trust
 The National Lottery Community Fund
 Neath Port Talbot County Borough
 Council
 Natural Resources Wales
 Players of People's Postcode Lottery
 Rhondda Cynon Taf County Borough
 Council
 Seachangers
 South Hook LNG

South Wales Fire & Rescue Service
 Tesco
 Tywyn Baptist Church
 Vale of Glamorgan County Borough
 Council
 Waterloo Foundation
 WCVA Landfill Tax Communities Scheme
 Welsh Government
 WREN
 The Wildlife Trusts

2. Nature Reserves

2.1 Introduction to our work on our nature reserves

The ongoing management of our nature reserves takes up a significant proportion of the team's time. Just maintaining the status quo with regard to conservation condition and public access is a significant responsibility in terms of investment (both capital and revenue) by the Trust, and particularly in terms of the Conservation Team's time. The Wildlife Trust movement as a whole is a significant landowner and one of relatively few conservation charities who specialise in this. Our management of nature reserves, which vary in significance from local to international importance, is a key part of our organisation's identity in the public eye. The following sections of the report provide case studies and some facts and figures to give a flavour of our work on our nature reserves over the last year.

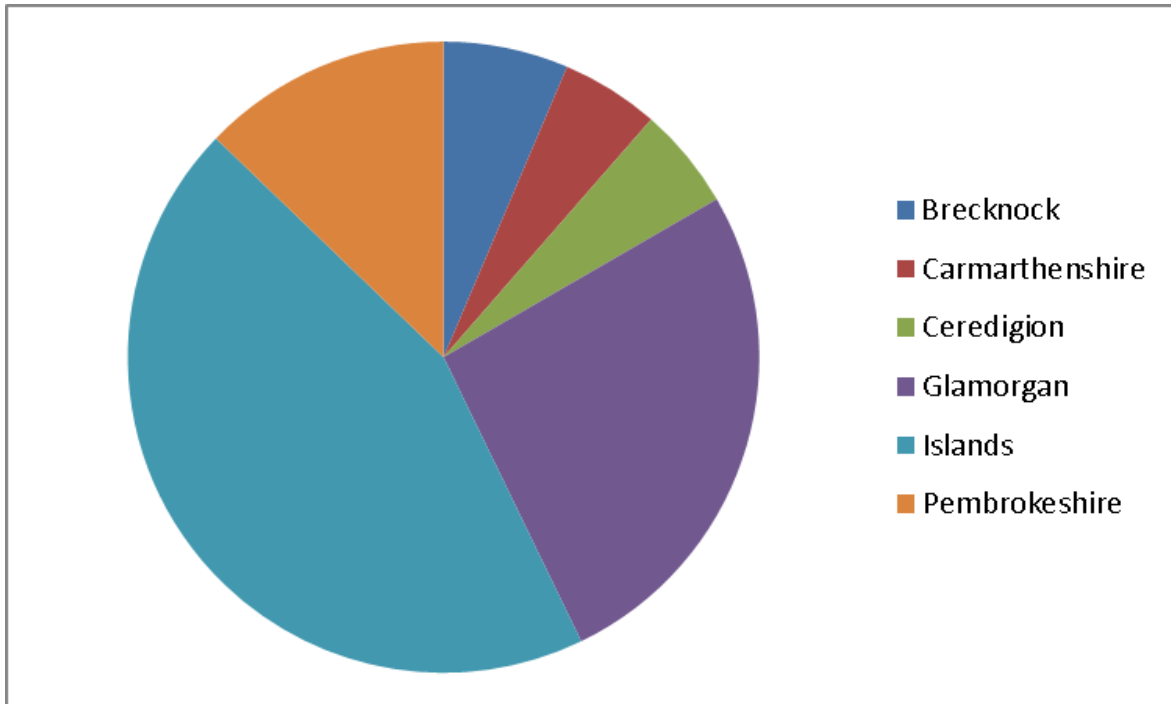
The table below shows the total number of recorded staff and volunteer days involved in direct on-site management of mainland sites (Skomer and Skokholm are not included), arranged in descending order. Please note that voluntary wardens' time is not included in this table, nor is local group activity (such as the Lavernock, Cwm Clettwr and Coed y Bwl groups). The data below reflect only the volunteer time in work parties led by Conservation Team staff, captured in our staff report system. This year the Teifi Marshes has the lead on Parc Slip as the mainland reserve receiving the most management effort; one of these two flagship sites always tops the bill of the investment of management time.

In 2018-19 there were 1412 reported staff days directly involved in mainland reserve land management and 4317 days in total, including volunteers (an increase on those reported in '17-'18, expected following the increase in delivery after the merger with Brecknock Wildlife Trust). The figures encompass all reserve-based activities; breakdowns by activity type are detailed later in the report. Support from volunteers more than triples the investment of management time we are able to make in the conservation of our land and other priority sites, and the value of this cannot be overstated. We are indebted to the generosity of our volunteers.

Nature Reserve or third party site	County	Direct management- Total person days
Teifi Marshes	Pembrokeshire	476.6
Parc Slip	Glamorgan	415.25
Brynna Woods & Llanharan Marsh	Glamorgan	319.1
Carmel	Carmarthenshire	229.25

Third Party Conservation Sites	All	226
Gelli Hir	Glamorgan	204.65
Pengelli Forest	Pembrokeshire	162
Taf Fechan	Glamorgan	161.25
The Dranges	Glamorgan	140.2
Coed y Bedw	Glamorgan	106
West Williamston	Pembrokeshire	105
Coed Garnllwyd	Glamorgan	104.5
Dowrog Common	Pembrokeshire	93.125
Castle Woods	Carmarthenshire	92
Llangloffan Fen	Pembrokeshire	88.875
Y Gweira	Glamorgan	82
Cae Lynden	Brecknock	68
Rhos Glyn yr Helyg	Ceredigion	64.5
Ystradfawr	Brecknock	60.75
Cwm Colhuw	Glamorgan	58
Pwll Waun Cynon	Glamorgan	52.75
Allt Rhongyr	Brecknock	51.5
Cae Eglwys	Brecknock	44.25
Cwm Clettwr	Ceredigion	43.55
Cadoxton Ponds	Glamorgan	42.5
Coed Maidie B Goddard	Ceredigion	40.5
Rhos Pil Bach	Ceredigion	38.75
Ffrwd Farm Mire	Carmarthenshire	33.75
Pwll y Wrach	Brecknock	33.5
Priors Wood & Meadow	Glamorgan	33.25
Caeau Llety Cybi	Ceredigion	29
Pant Da	Ceredigion	28.75
Longhole Cliff	Glamorgan	26.25
Wern Plemys	Brecknock	22
Llyn Fach	Glamorgan	21.75
Redley Cliff	Glamorgan	21
Trewalkin Meadow	Brecknock	20.255
Cors Ian	Ceredigion	20.25
Old Warren Hill	Ceredigion	19.5
Penralltfach	Pembrokeshire	19
Rhos Glandenys	Ceredigion	19
Elizabeth & Rowe Harding Reserve	Glamorgan	17.75
Coed Simdde Lwyd	Ceredigion	17.5
Lavernock Point	Glamorgan	17.5
Craig Cilhendre	Glamorgan	16.5
Pen Y Waun	Brecknock	14.5
Melincwrt Falls	Glamorgan	14
Overton Mere	Glamorgan	13.4
Cae Pwll Bo	Brecknock	13.25
Goodwick Moor	Pembrokeshire	13.1
Pennar Fawr	Ceredigion	11.75
Pembroke Upper Mill Pond	Pembrokeshire	11.5
Allt Crug Garn	Ceredigion	11
Rhos Marion	Ceredigion	11
Rhos Cefn Bryn	Carmarthenshire	10.75

Westfield Pill	Pembrokeshire	10.75
Cemaes Head	Pembrokeshire	10
Craig y Rhiwarth	Brecknock	10
South Gower Coast	Glamorgan	10
Kilvrough Manor Woods	Glamorgan	9.5
Penderi Cliffs	Ceredigion	9
Killay Marsh	Glamorgan	8.65
Rhos Fullbrook	Ceredigion	8
Y Byddwn	Brecknock	8
Coed Penganowen	Ceredigion	7.75
Peel Wood	Glamorgan	7.5
Roydons Corner	Glamorgan	7.5
Vicarage Meadows	Brecknock	6.875
Poor Mans Wood	Carmarthenshire	6.5
Llandefaelog	Brecknock	6
Weavers Road	Brecknock	6
Llanrhidian Hill	Glamorgan	5.35
Berry Wood	Glamorgan	5
Langeinor	Glamorgan	5
Drostre Wood	Brecknock	4.75
Cwm Ivy & Betty Church Reserve	Glamorgan	4.45
Coed Llwyn Rhyddid	Glamorgan	4.25
Nant Melyn	Carmarthenshire	4
Blaenant y Gwyddyl	Glamorgan	3
Cae Bryntywarch	Brecknock	3
Caermalwas Fach	Carmarthenshire	3
Baglan Badger Sett	Glamorgan	2.75
Hambury Wood	Glamorgan	2.5
Overton Cliff	Glamorgan	2.5
Coed Dyrysiog	Brecknock	2
Cors Fochno	Ceredigion	2
Darren Fawr	Brecknock	2
Port Eynon Point	Glamorgan	2
Cors Goch	Carmarthenshire	1.5
Llannerch Alder Carr	Pembrokeshire	1.5
Red Jacket Fen	Glamorgan	1.5
Brynmenyn	Glamorgan	1
Coed Gawdir	Glamorgan	1
Coed Wern Ddu	Carmarthenshire	1
Deborah's Hole	Glamorgan	1
Glasbury Cutting	Brecknock	1
Ogmore	Glamorgan	1
Tondu site	Glamorgan	1
Bolgoed Quarry	Glamorgan	0.75
Holyland Wood	Pembrokeshire	0.75
Cors Dyfi	Ceredigion	0.55
Coed Barcud	Glamorgan	0.5
Sedgers Bank	Glamorgan	0.5
Ty Newydd Gardens	Carmarthenshire	0.5
Broad Pool	Glamorgan	0.25
Talley Lakes	Carmarthenshire	0.25
	Total:	4316.78



The pie chart above shows the distribution of combined 2018-19 data for staff and volunteer time dedicated to the positive management of land (this time including Skomer and Skokholm), by geographical area. It shows a reasonably equitable division of resource between the historic Trust regions of mainland west Wales and Glamorgan, and the significant requirements of the Pembrokeshire islands, whose share has increased since last year due to changes in the staffing structure on Skomer. It also demonstrates that following the incorporation of the vice-county of Brecknock, the investment in site management in that area is comparable to other vice-counties in the pre-existing WTSWW area.

We have chosen to report below on a significant change in the funding of our reserve management. Following the cessation of any core funding from NRW for the management of our suite of nature reserves, we made the decision to look at Glastir Advanced which started funding some of our reserve management from the 1st January 2019. Lizzie Wilberforce details the process and impacts below.

WTSWW nature reserves enter into the Glastir Advanced agri-environment scheme

A great deal of the 2018-19 financial year was spent working with Welsh Government to secure a Glastir contract for the charity. Having successfully passed the Expression of Interest stage of application, there began a marathon effort of working out which of our nature reserves were eligible (with the right length of tenure remaining on leases for example), and which prescriptions (management actions) would be relevant and desirable on each field or land parcel. This work involved the whole team, and their specialist knowledge of their own sites.

Glastir is our agri-environment scheme in Wales; a voluntary, sustainable land management scheme, it supports farmers to deliver environmental goods and services. Its objectives include managing soils sustainably, improving water quality, reducing flood risk, conserving

biodiversity, managing landscapes and the historic environment, and improving public access in the countryside. Although the majority of participants in the scheme are farm businesses, the scheme's environmental outputs do mean that WTSWW is well positioned to meet the scheme criteria, and contribute to its aims.

For WTSWW, nature reserve management has historically been financially supported by a wide array of income streams- including, but not limited to, membership fees, local group donations, other grant schemes such as the lottery and landfill tax, and Natural Resources Wales (NRW) and its legacy bodies.

However, this is a changing picture, and grants are now harder to come by. Ten years ago, before the impact of austerity, the Trust's conservation team was in receipt of grant funding from the Countryside Council for Wales in the region of £100,000 a year, and the majority of this was spent on our nature reserves. Whilst this is only a proportion of our annual costs in nature reserve management, it clearly had a key role to play in supporting our staff and conservation delivery.

In 2019, NRW funding is a fifth of what it was, and will only fund 'add-on' project work (which is reported on later in this document)- it is not helping with the day to day management of nature reserves. The income from Glastir will therefore be critical in allowing us to continue our core nature reserve management.

The challenge, of course, is to make sure that our Glastir contract meets our aspirations for our sites; it is more restrictive than agency funding in what it can pay for. However, we are pleased to report that lots of common ground was found- with many thanks to the Welsh Government staff who helped us work it all through. Glastir will be supporting the Trust to deliver many critical habitat enhancements, from reedbed cutting to scrub management, hedge laying, pond restoration, hay cuts and much more.



All this hard work both by the Conservation Team and Welsh Government officers led to the signing of our contract on 01 January 2019. We look forward to reporting on our progress in future years.

*Lizzie Wilberforce
Conservation Manager*

We also deliver a lot of bespoke, species-focussed projects on our nature reserves according to their features of significance and the opportunities that the reserves afford. The case study below provides one such example from Ceredigion.

Creating opportunities for bats at Cors lan nature reserve, Ceredigion

As part of the refurbishment of our old stable block at Cors lan, we wanted to include a space suitable for bats, as they are known to be on the reserve but were not using the old stables (it was surveyed before we started work).

The corner stable was chosen but needed some work to make it more usable. After seeking advice and recording the temperature variation in there, a chamber was designed that allowed the bats to move around in larger or smaller spaces as the temperature changed. From the chamber there is direct access to outside or into the stable, there are also flaps incorporated into the walls to create small spaces for bats to crawl behind. The new roof doesn't really provide anywhere to hang, so extra timbers were added in the top of the chamber. All the timber used was "rescued" from the old stable.



It was an interesting project (something very different to our usual work) and although it doesn't seem that any bats have used it this year, it is hoped they will in the future.

*Em Foot
Ceredigion Wildlife Trust Officer*

2.2 Habitat management

This section describes the nature of our habitat management on WTSSW reserves and on third party owned land, including through our wider countryside and partnership projects. There are no very significant changes in the distribution of time this year, and those that do appear generally reflect the focus of particular funded projects or seasonal shifts in priority. Of note are the days on Wildlife Gardening which was a key part of the Wild Communities Project delivered in Ystradgynlais. Control of non-native species (the greatest proportion of which reflects the Mid Wales Red Squirrel Project, but with a high investment also recorded in terrestrial plants on nature reserves) remains the dominant management type by demand on staff days.

Activity	No. staff days 2018-19	No. staff days 2017-18
Control invasive species	263	267
Scrub control	156	163
Fencing	102	42
Mowing /cutting	102	111
Site visits, maintenance, H&S	92	156
Coppicing	67	78
Hedge laying	33	13
Wildlife gardening	29	0
Thinning woodland	24	52
Supporting grazing/graziers	20	18
Clearance/excavation	18	9
Removing waste	13	15

Species based interventions	12	13
Drystone walling	4	0
Charcoal burning	4	0
Chain harrowing meadows	1	0
Planting	1	3
Sowing	1	1
Total	940	941

Such habitat management regularly brings together the best elements of WTSWW's work: managing nature reserves, working with partners such as NRW, and engaging with volunteers. As such it is best represented by a number of case studies from the year.

Coed Garnllwyd meadow management (Glamorgan)

Coed Garnllwyd is a 13ha reserve near Llancafarn in the Vale of Glamorgan. It is predominantly a mixed woodland, dominated by ash, with a rich spring flora and a variety of shrubs typical of woods on limestone. The woodland itself is designated as a SSSI but there is also a remnant meadow less than a hectare in size which, due to lack of resources for management, has not received as much management it requires until recently. The under-management led to the sward becoming rank and it has gradually been encroached by bramble and blackthorn.



The meadow is a management priority as the semi-improved calcareous grassland is a scarce and disappearing habitat in the Vale. In recent years we have started to get on top of things thanks to hard work by our dedicated team of volunteers including long-term volunteer wardens Rob and Linda Nottage. We have started mechanically cutting the meadow annually with volunteers raking up the cuttings into habitat piles. Bramble scrub is being pushed back using brushcutters and the blackthorn is being tackled with hand tools. The scrub has then been burned – an ideal opportunity to reward volunteers with baked potatoes and marshmallows!

Areas of scrub are maintained in some places as the bramble is a good source of nectar for invertebrates and berries for birds, and a boundary of blackthorn is also going to be kept for

similar reasons. A couple of years ago green hay was spread on one area as a trial method of increasing the floral diversity. The green hay was sourced from nearby Lavernock Point and we will be monitoring any improvements. The meadow does seem to have improved already and there was a good display of red campion in 2019 although ideally we will be introducing conservation grazing at some point in the near future. For now, we will continue to manage it as we have in the last few years so hopefully it will continue to improve. Thanks again to all the hard-working volunteers without whom we would only achieve a fraction of the management that we have been able to.

*Vaughn Matthews
Conservation Officer*

Ffrwd Farm Mire, Carmarthenshire – infrastructure, grazing, and hay

Ffrwd Farm Mire SSSI is remnant fenland, and primarily important for swamp which supports one of the largest reedbeds in the county. Last year we changed grazier, and consequently the site benefitted from a more appropriate stocking density, in addition the new grazier cut, bailed and removed the rushes. This will open up the marshy grassland, and reduce nutrients residing in the soil, thus allowing more species diversity by encouraging some of the less competitive of plants. The indications so far have been encouraging with a



perceived increase in plants such as the marsh pea, tubular water dropwort, celery leaved buttercup and birdsfoot.

The dryness of last summer enabled the cattle to graze an area previously thought inaccessible, thus improving habitat conditions for numerous marshy grassland plants including the rare marsh pea (pictured, right). The marsh pea is only found in 2 locations in Wales. It prefers the interface of marshy grassland and denser reed bed. It is consequently always under threat from successional change and relies on grazing to stop it from being shaded out. We took the opportunity to gate and fence off the area, enabling future grazing opportunities.



We also welcomed the addition of a new holding pen, ensuring that the facility is fit for the purpose of safe loading and unloading of cattle.

Two ditches, which had become choked with vegetation, were also cleaned out and re-profiled, increasing open water and therefore wildlife potential for specialist plants, dragonflies and water voles. Another ditch, which was suffering from poaching by cattle, was re-dug and fenced off. A drinker was placed at one end. Now the risks to cattle from drinking dirty water have been reduced, water quality improved and better habitat for wildlife provided.

Thanks to NRW and the Llanelli Naturalists who continue to support our work on the reserve.



LLANELLI NATURALISTS
NATURIAETHWYR LLANELLI



Becca Killa
Wildlife Trust Officer (Carmarthenshire)

2.3 Research

The conservation movement as a whole has been criticised in the past for its failure to engage in and learn from current research and latest knowledge. At WTSWW, we have worked hard over many years to address this issue, by building relationships with universities in our area of operation, supporting many students to work with us during their studies, and trialling new techniques and reporting the outcomes of our own work wherever we can. We have been fortunate to continue to benefit from strong partnerships with many academic institutions, particularly Cardiff, Swansea and Aberystwyth Universities, and a number UK-wide institutions through their involvement with the Pembrokeshire Islands.

In the current reporting year we are also supporting a number of postgraduate students in both Cardiff and Aberystwyth universities to undertake studies relevant to our area of work through the KESS funding programme.

The case studies below are from Skomer Island, where a huge number of research projects take place every year. Some are undertaken by our own Long Term Volunteers. Others are led by residential researchers from a range of academic institutions, some of whom have been working on the Pembrokeshire Islands for many decades.

Manx Shearwater Plastic Ingestion Study, Skomer Island

Plastic pollution is currently a major threat to marine life. Previous research has found high rates of plastic ingestion by Procellariiformes including a study in southern Brazil, which found 60% of Manx shearwaters (of a sample of 25) had ingested plastic, making up 83% of the total items found in the dissection (plastic and prey combined). The Skomer team were



keen to discover the extent of plastic ingestion in the island's Manx shearwater population.
Picture above: Manx shearwater on Skomer, by Annette Fayet.

I dissected 13 Manx shearwater carcasses which had been collected over the 2018 season between April and September. Of these, two were chicks, one was a fledgling (probably with puffinosis) and the rest were adults. In each dissection I isolated the gastrointestinal tract and examined the proventriculus (the stretchy sack that adults use to collect food for their chicks) and the ventriculus (muscular stomach or gizzard), and rinsed and filtered the contents. After drying, I examined each sample under a dissecting microscope. I also collected additional samples to facilitate other studies including pectoral muscle samples for DNA analysis as part of the OxNav research, and samples of prey items and pre-faeces (the final 5cm of the gastrointestinal tract) for a micro-plastics study at the University of Gloucestershire.

Most of the carcasses I collected were not as heavy as is usual for a healthy adult shearwater and there were not many prey items or food found inside them. Six individuals had a black tarry substance coating the gizzard lining, whereas individuals that were presumed otherwise healthy and had died from sudden trauma had yellow gizzard linings.

I did not find any macro-plastic (items >5mm) in either the pro-ventriculus or the ventriculus of any individual. I found small plastic items (<5mm) in four individuals, and possible plastic items in a further three. The most common items found in the ventriculus were squid beaks, with fish bones, otoliths, grit, sand and plant fibres also found. The plastic items found were microbeads in three different individuals, a small piece of green plastic mesh, a fibre and several small white plastic fragments.

A full micro-plastics analysis was not feasible during my study without full lab facilities, so it will be interesting to see what the Gloucestershire study finds. I would recommend future studies consider using: hydrogen peroxide to digest biological material and remove it from the analysis; a dye to stain plastic items; a hot needle to test potential plastic items; a compound microscope to enable more confident identification of materials found; and cotton overalls, glass containers and petri-dishes, and plastic-free filter paper to reduce potential sources of cross-contamination. Future studies could compare plastics found in adults versus fledglings to see if plastic retention is greater in fledglings which do not regurgitate food.

Overall, visible plastic was found in 30% of individuals in this small sample. This percentage is likely to increase with more rigorous testing and identification of small particles and more detailed lab based micro-plastics analysis.

*Ellie Ames
Skomer Long Term Volunteer 2018*

Skomer Island Research Overview

One of the best things about Skomer is all the research undertaken on wildlife and that every member of staff and volunteer contributes, most hostel guests and some day visitors do too

via the daily wildlife log of every organism seen since midnight... it can take a while! All the wildlife log records since 1946 have now been digitised by a team of meticulous volunteers.

This is just one example of the valuable data that is recorded on Skomer, I shall aim to explain as many as I can in the following paragraphs, there are so many projects I will undoubtedly forget some (apologies) and some are world leading research, so I will undoubtedly provide a poor explanation their complexities (apologies). I shall group the research into the category of people that people that predominantly undertake that research, but another best thing about Skomer is that we all help each other, so a Weekly Volunteer (or a Warden!) may get to assist a researcher with pioneering research.

Weekly Volunteers – every Saturday (weather permitting) a new team of 6 Weekly Volunteers arrives and (almost) immediately (we do allow them to unpack first!) start their primary role of visitor engagement, without which Skomer would not function. They have also previously undertaken refugia surveys for reptiles and standardized cetacean watches, which we will be bringing back in next year. In addition to assisting with a lot of the island's research, Weekly Volunteers also provide many sightings for the wildlife log (especially when the Wardens have spent too much time looking at a computer screen)!

Researchers – we assign the title researcher to those who are not employed or volunteering for WTSWW and whose research is not for the WTSWW reports, so in one sense they are external, but they are just as much a part of Skomer as any of us, if not more, especially those who have been undertaking research on Skomer for decades! This research includes both population dynamics and behavior. So far this year research has included:

Oxford Navigation Group (OxNav) -

- Migratory and winter behaviour of Manx shearwaters using geolocators. In addition to location (migratory route) geolocators also record time spent diving (fishing), flying and resting on the water. One of many interesting findings (hereafter worded as “one interesting finding”) is that “increased reproductive effort resulted in less time spent at the wintering grounds, a reduction in time spent resting daily and a delayed start of breeding with lighter eggs and chicks and lower breeding success the following breeding season” (Fayet et al. 2016).
- The impacts of artificial lights on Manx shearwater fledglings. One aspect of this research that is important is the impact of the lights of oil tankers that drop anchor around Skomer.
- Magnetic senses in Manx shearwaters – if they are unable to see where the sun sets or the stars at night, are they able to know where they are using the Earth's magnetic fields?
- How do Manx shearwaters find their burrows? Do they use landmarks, AKA: what happens if we periodically move a gym ball and baskets that are place in the colony? Or do they use smell? AKA: does placing air fresheners in the colony affect things?
- How do Manx shearwater parents know when to switch foraging tactics (they alternate between feeding themselves further away for around 5 days, and feeding themselves and chick by staying more local)? One interesting finding is that chicks stomachs can take a lot of food (fed by researcher) and also that they can then still be fed (by parent).



There is so much more research done on Manx shearwaters on Skomer but unfortunately I just can't talk about it all here. Work on other species includes:

- Sea Mammal Research Unit: GSP tagging of grey seals. One interesting finding is that catching adult seals is difficult, fun and a little scary. Another is that a bull seal that went through moult on and around Skomer then travelled north past Bardsey.
- Daniel Wood: How plants adapt to heavy metal contaminated soils
- Tim Healing: Skomer vole abundance. One interesting finding is that for the first time Ramsey Island had a higher density of Ramsey vole than Skomer did for its equivalent.
- Can trail cameras replace (support really) humans for monitoring cliff nesting birds e.g. kittiwake? We await the results with mild concerns!

I have probably already written too much, so perhaps in the next Conservation Report we shall write about some of the research that is led by Fieldworkers (e.g. puffin feeding watches, Manx shearwater adult survival, or kittiwake breeding success, or ringing 300 guillemot chicks), Wardens, Assistant Warden and Visitor Officer (e.g. counting tens of thousands of cliff nesting birds, listening for replies from Manx shearwaters in burrows and seal pup abundance and survival rates) and Long-Term Volunteers (e.g. frog and toad abundance and vegetation change)!

*Nathan Wilkie & Sylwia Zbijewska
Skomer Wardens*

Annette L. Fayet, Robin Freeman, Akiko Shoji, Holly L. Kirk, Oliver Padget, Chris M. Perrins and Tim Guilford. (2016). Carry-over effects on the annual cycle of a migratory seabird: an experimental study. *Journal of Animal Ecology*. 85(6). 1516-27.

Skomer Guillemots

This year marks the forty-seventh year of the Skomer Island guillemot project. The project has been passed on, this year, from Tim Birkhead (Sheffield University) to Steve Votier (Exeter University). The project began as Tim's doctoral study starting in 1972 and has grown to become one of the most important long-term studies of seabirds worldwide. Steve will continue Tim's hard work and generate new insights into the lives of guillemots.

The focus of our project is to document changes in the breeding biology and population dynamics of Skomer guillemots over time. In particular, we are estimating the survival of adult and juveniles through the resighting of ringed individuals; measuring the breeding



success of adults; and quantifying the diet of chicks. This year, I was the field worker living on Skomer during the seabird breeding season (April-July) and I was responsible for collecting the data.

Picture: Skomer guillemot by Dave Boyle

With over 40 years of continuous monitoring, this project has shown that in most years around 80% of guillemot pairs successfully fledge a chick. However, we have also discovered that there are fewer guillemots on the cliffs now (~ 28,000 individuals) compared to the 1930s (~ 100,000 individuals). The population is currently increasing at approximately 5% per year and still recovering from the many oil spills that happened in waters surrounding Skomer during WWII. There are also signs that chick diet has shifted slightly in the last five years and now includes more poor-quality prey like cod. The causes of this diet shift, and the locations where guillemots forage for food, is still unknown, but these are some of the many questions that we will address in the coming years.

Careful long-term monitoring, as exemplified by the guillemot project, can support conservation management and marine policies in the waters around Skomer. It provides vital information on health of the oceans and insights into the vulnerability of guillemots and other seabirds, particularly in relation to pressures from the climate change, overfishing and pollution.

Julie Riordan

Sheffield/Exeter University Guillemot Fieldworker 2019

2.4 Recording and monitoring

A key part of any site's management is the recording and monitoring of its conservation features, allowing us to assess whether or not they are in favourable condition, and allowing us to complete the feedback loop and adjust our management of the sites (and our advocacy work) accordingly. An estimated total of 2608 person days were recorded in this area of work during 2018-2019. The major contributors to this are the marine monitoring work undertaken at Cardigan Bay Marine Wildlife Centre, squirrel monitoring undertaken by the Mid Wales Red Squirrel Project team, and seabird monitoring on Skomer and Skokholm. Many additional unrecorded days are also undertaken by mainland volunteers, who report results to us but whose investment of time is not currently well captured.

The table below summarises staff effort (and the volunteer effort recorded in direct support of these staff days; many independent volunteer days remain poorly captured) on survey and monitoring, on our own nature reserves, and on private land. Project totals for Cardigan Bay Marine Wildlife Centre and the Red Squirrel Project are not included in this breakdown, neither are the islands; the purpose of this table is to capture the investment in the ongoing investment in survey and monitoring on the features of more local sites.

Survey or Monitoring Activity	Staff days	Volunteer days
Amphibians	1	0
Aquatic survey	1	4
Badger	4	5
Bats	1	0
Bees	1	9
Bioblitz	10	70
Bird ringing	2	134
Breeding birds	20	36
Brown Hairstreak	3	37
Bryophytes	1	1
Bumblebee	1	0
Butterflies	5	17
Dormouse	21	68
Dragonfly and damselfly	1	2
Fen Raft Spider	1	0
Fungi	0	1
Harvest Mouse	1	2
Invasive species	8	7
Invertebrates	2	3
Lapwing	2	7
Marsh Fritillary	12	26
Moths	31	9
Otter	1	6
Reptiles	5	21
Scarce plants	6	11
Strandline	2	0
Vegetation	10	14
Willow Blister (fungus)	2	2

New Records for Carmel NNR, Carmarthenshire

We have a volunteer group that was set up originally to monitor the dormouse boxes and tubes we have at Carmel. Deborah Sazer, an local ecologist, organises the group with help from Becca Killa (Carmarthenshire Wildlife Trust Officer). The group have also been looking at amphibians and reptiles (under refugia), and vegetation surveys.



This year several of the dormouse boxes were occupied by yellow-necked mice (*Apodemus flavicollis*) which is an exciting new record for the reserve.

They are slightly larger than a wood mouse, and a more limited distribution in Britain, mainly restricted to southern England and Wales.



We have also found a new species to the site, whilst carrying out our habitat work. We recently laid a hedge on site and came across the fungus hazel gloves (*Hypocreopsis rhododendri*). There were five hazel gloves Stromata (fruiting bodies), in the hedge all in a two meter area. Hazel gloves is a rare fungus, the species is believed to be parasitic on the glue crust fungus (*Hymenochaete corrugata*) which is often found on dead and dying hazel stems.

Ceri Evans
Reserves Officer
(Carmarthenshire, Swansea, Neath and Port Talbot)

Brynna and Llanharan Marsh Reptile and Amphibian Survey, Glamorgan

We started this survey in March 2019 in three key areas, woodland edge, meadow and marsh, this included the use of 1m square onduline sheets strategically placed with 10 in each habitat. The first couple of weeks were slow with no sightings, this is common with the tins taking time to bed in, and the weather not really conducive. The first sighting was a



juvenile adder in the meadow in the first week of May. The temperature had risen considerably and the reptiles becoming more active with more juvenile adders found in the meadow, possibly a sign that there is a hibernacula nearby. The first sighting of any reptiles in the marsh was May 15th with a large grass snake under one of the tins near the pond, and several adult adders also spotted, this set the tone for the rest of the summer with more adders found in the meadow along with a very large grass snake. The woodland wasn't so productive with no reptiles found, and only a couple of wood mice and one shrew. The surveys will continue next year with more tins in different areas of the three habitats.

Pictured: grass snake by Vaughn Matthews

Thanks to all the volunteers that helped with this survey and the community council who help fund the work done on this reserve.

Tim Jones
Wildlife Trust Officer, Bridgend and Vale

American mink control for Water vole conservation at Llyn Fach (Neath Port Talbot)

Llyn Fach is a remote glacial lake, shouldered by north east facing cliffs and surrounded by conifer forestry plantation and the infrastructure of the Pen y Cymoedd wind farm. The isolation and quietness of Llyn Fach no doubt contributes to its beauty and its success as a haven for wildlife, but isolation can also be an issue for wildlife. In 2014 a visit by WTSWW revealed the presence of water vole (*Arvicola amphibius*) at Llyn Fach, the first record for the

site and at the time one of the last remaining records for the species in Glamorgan.

Water voles were once found in almost every waterway in England, Wales and Scotland, but they are now believed to have been lost from up to 90% of these sites and are vulnerable to extinction in the UK in part due to habitat loss, water pollution, and fragmentation of populations. As habitat is lost, local populations of water voles can go extinct, causing their neighbouring populations to become more vulnerable and increasing the rate of local decline. Small isolated populations of water voles are also susceptible to a loss of genetic variation.



Water voles are especially vulnerable to predation by the non-native American mink (*Neovison vison*). American mink were first brought over to Britain in the 1920s to be farmed for their fur, but they quickly escaped and began breeding in the wild by the 1950s. Since then their distribution has expanded, unheeded by many predators of their own, and they have spread across the UK causing a devastating impact on our native fauna through predation on birds, fish and mammals. A female mink is small enough to fit into a water vole burrow and consequently entire colonies and populations of water voles have been wiped out. In fact, the decline in water vole numbers seen since the 1980's can be directly attributed to predation by mink.

Monitoring for the presence of American mink at Llyn Fach has been carried out since 2017 using floating footprint rafts located at 4 points around the lake. The presence of American mink has since been confirmed through identification of footprints on the clay tracking cartridges on the rafts, and from camera trap footage. Since the population of water voles at Llyn Fach may be an isolated population due to the geography of the landscape, an American mink present at the site for a period of time could have the potential to decimate the water vole population, without the possibility of repopulating the nature reserve from migrating voles. The lake at Llyn Fach also has fish species, amphibians, bird species and other small mammals which may sufficiently sustain a mink in the area, and the longer the mink is present the more significant its impact is likely to be on the water vole population.

It is a hard decision to make to place the value of one animal's life over the life of another, but in a time when humans have endangered the water vole by destroying its habitat and introducing a non-native predator which water voles have not evolved to be equipped to defend against, I feel it is our responsibility to protect water voles as a species, even if this means taking measures to control populations of American mink. Most conservation bodies accept that mink control is an essential tool in water vole conservation and our rationale and the position statement of the Wildlife Trusts is that we support strategic and humane control

of American mink for the purposes of water vole conservation. At Llyn Fach this has meant deploying a live capture mink trap and working with Natural Resources Wales to put together a humane dispatch plan for instances when we know that an American mink is at Llyn Fach and poses threat to the population of Water voles there.

Our aim is to work with partners to develop a wider strategy for Water vole conservation in the landscape around Llyn Fach which will include habitat management and restoration for Water vole, research into the existing populations of Water voles in the area and also appropriately targeted and humane American mink control. Partnership working with landowners around Llyn Fach would form part of a longer term, sustainable and effective American mink control strategy, with the ultimate aim of safeguarding our water voles and helping to bring them back from the brink.

*Lorna Baggett
Valleys Reserves Officer*

2.5 Volunteers

The true total of volunteer hours donated to the Conservation Team can be difficult to record, as some input is on a more casual basis and full paper records are not kept in all cases.

However, during 2018-2019, we estimate that our team engaged with around **700 regular volunteers** and very many more on a more short term basis. A total of 494 new volunteers were recruited during the year. Both of these figures are increases on the year before, reflecting the inclusion of Brecknock and the increased marine project activity through Living Seas Wales. 'Hotspots' of activity also continue to include the Pembrokeshire Islands, CBMWC, flagship reserves such as Parc Slip and Teifi Marshes, and groups associated with the Wildlife Trust Officers. A total of **817 individual volunteer workparty dates** were led by Conservation Team staff on mainland sites (an increase on the previous year because of Brecknock work). These figures do not include the additional, significant amount of work delivered by WTSWW's local volunteer groups, particularly at Lavernock Point, Cwm Clettwr and Coed y Bwl.

We estimate the volunteer contribution directly to our team to be **7141 person days** during the year 2018-2019. It cannot be over-stated how important this contribution is to our ongoing conservation work. Much of what we do, particularly in the routine but critical maintenance of our nature reserves and recording, could not be done without this volunteer contribution. In capacity terms, it effectively doubles our team in terms of number of worked days.

We hope that the three case studies below reflect the diversity of volunteer involvement.

Placement Year Summary 2018- 2019

I was the placement student with WTSWW as part of my Wildlife Conservation BSc (Hons) degree at Nottingham Trent University from the 3rd of September to the 12th July 2019. I was based at Parc Slip Nature Reserve doing various tasks including practical management,

surveying and education. I had plenty of opportunities to do a lot of these activities at other Trust reserves as well as Parc Slip, including Coed y Bedw, Cwm Colhuw, and Brynna Woods.

Having opportunities to undertake various practical work, such as coppicing and scrub clearance and control, at different reserves gave me a well-rounded understanding of the work required to manage various habitat types and to work with different staff members. The majority of these activities were done through volunteer work parties. I valued the work parties as it allowed me to meet like-minded people and learn from others who I would not have crossed paths with elsewhere. I learned that volunteer/staff relationships are important as it encourages volunteers to attend more sessions to become regulars, without volunteers a lot of vital work would not happen. I witnessed first-hand the importance of volunteers through my time with WTSWW.

Some of my favourite activities were carrying out various surveys around different reserves. These included; butterfly transects (including dragonflies), WeBS counts, dormouse tube and nest box monitoring, harvest mouse nest surveys and reptile surveys. The variety of surveys I undertook are very valuable to me as it allowed me to learn different survey methods and they were a great way to broaden my identification skills of species of butterflies, dragonflies etc.

However, my placement was not all habitat management and surveys, education played a significant part. I participated in public engagement activities including assisting in events from bat walks and bird walks to being on the Trust stand at the Unknown Wales Conference and RHS Show Cardiff. I value these experiences as I believe that being able to engage with the public is a rewarding part of wildlife conservation. It allows you to educate other people in a way that encourages them to get involved to help look after nature, this also included writing e-newsletter articles on topics such as creating hedgehog friendly gardens and preventing the spread of disease in birds through bird feeders. Assisting with Wildlife Watch and school groups is, for me, important experience to have gained as it is not the sort of experience I would have obtained elsewhere. Thanks to this experience gained, I was able

to confidently lead a reptile ramble and manage the team of volunteers at a volunteer work party at Parc Slip.



Possibly the biggest highlight of my time with WTSWW was my trip to Skokholm Island. It was an incredible experience that gave me an insight on how much work goes into monitoring and conserving ecologically important sites such as islands, and provided me opportunities to get up close to birds such as Manx shearwaters and puffins. Being able to meet researchers that were working on the island opened my eyes to just how

important their research is and how the contribution of their work relates to the conservation of certain species such as the shearwaters and storm petrels.

I am extremely grateful and thankful for the staff at WTSWW for giving me the opportunity to work with them for such a significant amount of my time in university education, for providing me with amazing experiences I wouldn't find elsewhere and of course for giving me a head start in my conservation career!

*Victoria Shone
Field Assistant*

Volunteer Reserve Warden Training – Tree Safety Awareness at Pwll Y Wrach, Brecknock

We wanted to do something for the volunteer reserve wardens as a group which is quite difficult as they are widely spread across Brecknock. Feedback from wardens was that rather than a social gathering they would find some relevant training useful. Having done a



LANTRA Tree safety 1 day course I had mapped and surveyed the priority areas in the reserves and flagged up some trees to keep an eye on. So how could volunteers help me when checking their reserve?

We organised an informal gathering at Pwll y Wrach, one of our most visited reserves with the most frequent tree failures and invited the reserve wardens and any others who were interested. I also met some

of the wardens on a one to one basis on their reserve if this was more convenient, this allowed me to point out the higher priority areas and flagged trees.

I wanted the training to emphasise that volunteer wardens are asked to report on trees, to be the eyes and ears for staff but are not responsible for health and safety on the reserve!

We covered the signs of disease and weakness in trees, tree species, and assessing risk posed by the tree. Often people get worried about relatively narrow broken limbs hanging in trees but their probability of hitting someone is quite low. However anything hanging over busy car parks, benches and busy roads are in red zones, and should flagged to a member of staff to be assessed. Uninhabited property such as garages and barns are much lower on the scale of risk as are most of our reserves paths that are lightly used and avoided in bad



weather! This helps us to decide what course of action to take and how quickly and is important to conserve our high conservation value trees that are often rotten and weakened. Sometimes by diverting a path or moving a bench or interpretation panel we can reduce the risk posed by these valuable trees.

Picture: Warden Wendy with a fallen tree.

One tree at Pwll y Wrach was pulled down by a helpful contractor whilst meeting to discuss another job- it had moved since the last check and had cracks around the base, a car was parked next to it. It is possible that the tree could have originally been killed or weakened by works to surface the car park!

*Steph Coates
Brecknock Wildlife Trust Officer*

Skokholm Island Long Term Volunteers – where are they now and how do they help

Since opening as a Bird Observatory in 1933, Skokholm Island has provided a place for study, an exciting hub from which to learn fieldcraft, bird identification and ringing, seabird ecology and pursue other in-depth species studies. Following the renovation and reopening of Skokholm as a visitor destination in 2013 and the subsequent reaccreditation of the Bird Observatory, we have welcomed up to five Long-term Volunteers per season to experience exactly this. Each year we receive a huge number of excellent applications, the opportunity appealing mostly to post-graduates of natural science based degrees seeking to gain hands-on experience that will complement their academic qualifications. Each successful volunteer dedicates three months to Skokholm, a stimulating and fully immersive time where they are trained in seabird monitoring techniques and given responsibility for several areas of our core annual research. Volunteers also take on other survey work and are given the opportunity to take part in many other areas of research. Some arrive already as trainee ringers, but for others our seabird and migrant work provides them with their first taste of bird ringing; handling strong birds that can cause pain, such as great black-backed gulls, puffins and Manx shearwaters, is an experience they'll never forget and one that many qualified bird ringers rarely get the chance to have.

Amidst all of the seabird monitoring, bird ringing and wildlife recording our Long-term Volunteers also work tirelessly to keep the visitor accommodation clean and tidy, emptying the composting toilets and chatting with the Skokholm guests about the on-going research.



Skokholm would not be able to function in the way it does without their help. After three months of hard slog, intense learning and fantastic memories, our Volunteers return back to the mainland to continue on their journeys. But what happens to them? We have had some amazing people pass through Skokholm, a high proportion of whom are now in paid employment in their dream careers. Skokholm graduates have

scattered themselves around the UK and beyond. Some are Assistant Wardens at other Bird Observatories such as North Ronaldsay, Portland, Bardsey and Ottenby in Sweden. Others are now Wardens and Assistant Wardens of other seabird islands such as the Farnes, Coquet, Rathlin, Lundy and Handa. Some are Research Assistants on the Shetlands and Orkney and others Rangers on nature reserves such as Lulworth Cove. Being able to live and work within a small team in a remote location is a very desirable trait, and some of our Volunteers have gone on to assist with exciting ornithological fieldwork in remote areas of

Argentina and South Africa, whilst several more have gone on to study for their Masters and PhDs. Although almost 90 years have passed since Skokholm first opened as a Bird Observatory, its importance as a place to learn, study and gain invaluable vocational skills is as strong as ever. We intend to welcome many more Long-term Volunteers in the future.

*Giselle Eagle and Richard Brown
Skokholm Island Wardens*

2.6 Public access management

After habitat management, the creation and maintenance of public access to our nature reserves is the most significant commitment of time and resources that the Conservation Team makes, in terms of management of our nature reserves.

Providing good public access is essential to the delivery of our remit to inspire and engage others. However, this requires the access to be safe and appropriate, and also where possible to be accompanied by such interpretative material as is necessary and desirable to help visitors make the most of their visit and take our conservation message away with them. The table below shows the number of staff days spent working on areas associated with public access (through the leading of volunteer work parties and individual site visits). There has been an increase in the time invested in supporting visitor access, in maintenance rather than installing new infrastructure (a reflection of past grant investment in infrastructure that is now requiring repair effort, and the reduced availability of new grant funding). Tree safety work continues to be a major cost of both staff time and cash resources.

Access Work	Number of staff days 18-19	Previous year
Clear of vegetation	106	139
Maintain/repair	69	65
Clearing litter	15	13
Tree safety work	71	37
Install new	69	37
Resurface	9	11
Dog mess	2	1

This was backed up by an additional 842 volunteer days. In total, clearing litter alone took 15 staff days and 92 volunteer days- a major commitment of time that could be spent more constructively on positive conservation action.

In total, **1182 staff and volunteer person days were spent creating and managing visitor access infrastructure to our nature reserves.** This figure is focussed on physical access infrastructure, but of course on the Pembrokeshire Islands, many extra days are spent in supervising and informing safe and informative visitor access in addition to this total.

This year we have chosen three case studies that reflect the diversity of direct and partnership effort that Conservation Team staff face in providing public access to wild places.

Improved access at Llangloffan Fen, Pembrokeshire

Llangloffan Fen nature reserve is a SSSI, NNR and part of the Cleddau Rivers SAC. The reserve comprises the western end of one of the largest remaining floodplains or valley mires in Wales, supporting tall fen, fen meadow, wet heath and carr communities and associated species. An area of semi-improved pasture and a sown area of winter seed crop is also part of the reserve.

Located just east of Mathry, near Castlemorris in Pembrokeshire, this 15.4ha popular reserve has benefitted in recent years from receiving funding for a variety of habitat projects that have gone some way to enhance the features of the site. With the conservation of species and habitats actively progressed here, other features such as footpaths and reserve infrastructure are requiring some attention.



This year, WTSWW have been fortunate to receive further funding from Natural Resources Wales to replace a 50m section of boardwalk that was installed some 12 years ago. It was in a state of disrepair and regular volunteer work parties were spent patching it up. As with all infrastructure installed that length of time ago, there is a need to replace many timber features.

The boardwalk was installed by contractors and has now been completed. Circular access on the reserve is once again possible enabling visitors to immerse themselves in the variety of wetland habitats that are found on the reserve. This new structure, as with all new boardwalks erected on WTSWW reserves in Pembrokeshire, is of a recycled plastic subframe with timber decking. This ensures that the structure will

last indefinitely as opposed to using timber which rots and degrades much quicker, especially in wetland environments. Although the cost of doing this is some three times more than timber, it is a cost worth bearing.

A new bridge has also been installed this year to replace one that was washed away by the heavy rains last winter. This was installed with volunteers through funding from the Mid Pembrokeshire Local Group of the Wildlife Trust.



Nathan Walton
Wildlife Trust Officer (Pembrokeshire)

Path Management on Skomer Island

I've spoken to those working on reserves in both bog and dune habitats who have said that board walks are one of their most effective conservation tools, and there is no doubt that a well-managed and well observed footpath does wonders for allowing people to explore a

reserve while minimising disturbance.

On Skomer Island the paths are especially important as across the island, Manx Shearwaters and Puffins have dug burrows which are often just protected by a few centimetres of soil. In theory,



Path widening at Welsh Way in March

these do not come under the footpaths so those staying on the paths shouldn't collapse burrows, in reality, every year we have several which have gone under the path, collapse as someone steps on it (pictured, above right), and several which are just under the edge of the path. The edges of the paths often cause an issue as we do not have the man power to maintain a well-marked path. This means that the edges of the paths are mostly defined by the vegetation, being shorter on the path than off.

2018 has been a strange one. When we arrived on the island my first priority path wise was widening the paths at the Wick, and at Welsh Way, where the elusive leucistic puffin was seen last year and caused congestion with people wanting to wait for it, or photograph it, in an area where the footpath is too narrow for people to get past easily. Path widening at the Wick was curtailed by the camera cables from the old web cam that used to be there, but we did the best we could, and the path at Welsh Way is now a huge amount wider, wide enough for people to easily pass those stopping with rucksacks on. However, the problem with widening a path which is traversing a slope, is that the path ends up with a large bank in one side, which, when someone has walked around a fair bit of the island and faced with a slight uphill, or a bank at knee height, puffins and a beautiful view, is just too tempting a prospect and we have had recurring problems with people sitting on the bank.

By the beginning of the season a new problem arose- water. After the big freeze the spring turned very wet and the island was wetter than I've ever seen it. New streams appeared where I'd never seen them before, and it was an urgent priority to patch up paths which had become boggy and waterlogged such that people were slipping and sliding and ankle deep in mud, and some avoided this by walking on the banks of the sides of the paths, over the burrows we're so desperate to protect.

With volunteers, we built bits of temporary board walk out of old bird hide ply and chicken wire, and collected sacks and sacks of dry burdock stems from around the island which when laid



The path at south stream in April, with temporary repairs, and in June, finally dried out.

out on muddy paths, helped it dry out and be less slippery.

Gradually, the island dried out, and the temporary board-walks could be brought back to the farm. Some have now had to go back into use to protect Manx shearwater chicks living in burrows collapsed in the footpath. But the island has now become so dry that we have a new issue- areas where the grass was already short due to grazing by rabbits, is dying off due to lack of rain and too much sun, and is becoming indistinguishable from the paths, leading people to head off towards rocky outcrops surrounded by burrows, on the delusion that they're still on a well walked path.

*Sarah Purdon
Skomer Assistant Warden*

Castle Woods, Carmarthenshire: a new footbridge

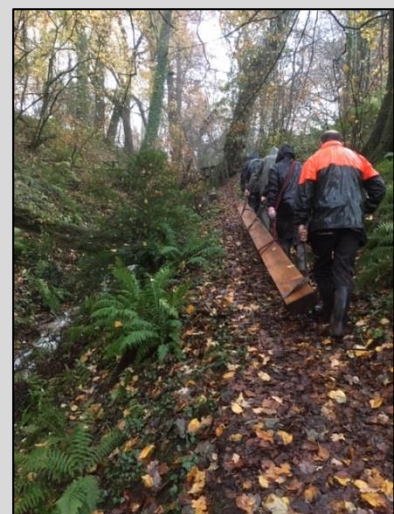


Last autumn we were able to re-open a much used and well loved footpath at our Castle Woods reserve. It had been closed off with much regret previously in the year, due to safety concerns over a footbridge that crosses a ravine. There was serious rot in the main supporting beams.

The steepness of the ravine and its location within the woods created a big logistical problem when faced with how we would go about replacing this feature, so essential to the footpath. Ceri Evans, Reserve Officer, came up with a design. He also decided that pre-building the bridge somewhere with better access and space, before assembling in its end location would be the easiest way forward. The

National Trust at Dinefwr Estate kindly lent us the use of their barn. Here all the wood was cut to size and bolted together, essentially making a custom made bridge kit.

Once the old bridge was dismantled and removed we decided to put concrete pads down. It seemed that the damp ground the previous bridge had sat on had exacerbated the rot and decay. Using parts of the old bridge and a laser level, we made a structure for the concrete plinths to set inside. The volunteers then had the unenviable task of carting bucket loads of concrete up the steep track. Concrete pads in place, the new bridge was then broken down, transported and re-assembled in situ, a task that took several days to complete. The main beams were 6 metres long and took 5 volunteers and members of staff to carry them.



It was a great project and learning experience, with a definite sense of achievement with its completion. We were especially delighted to win an award from the Llandeilo and District Civic Society. The Society makes these annual awards in order to promote the improvement

of the built environment, presenting certificates for exemplary restoration, maintenance, design and improvement schemes.



Special thanks to the Carmarthenshire Volunteers who worked through torrential rain to get the main beams in place, and the National Trust for storing and transporting materials when needed. The purchase of the materials for construction was supported by players of People's Postcode Lottery.

Supported by players of



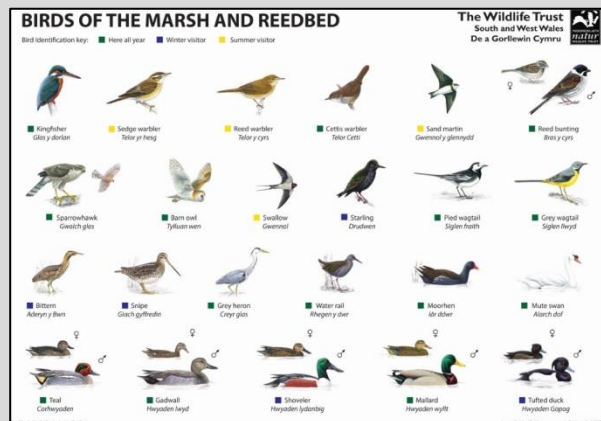
*Becca Killa
Wildlife Trust Officer Carmarthenshire*

2.7 Interpretation

Maintaining and delivering new interpretative material for our nature reserves and visitor centres is an ongoing area of work for our Conservation Team, usually dependent upon staff securing external funds such as grants. This year's case study is the installation of wetland bird panels at the Teifi Marshes.

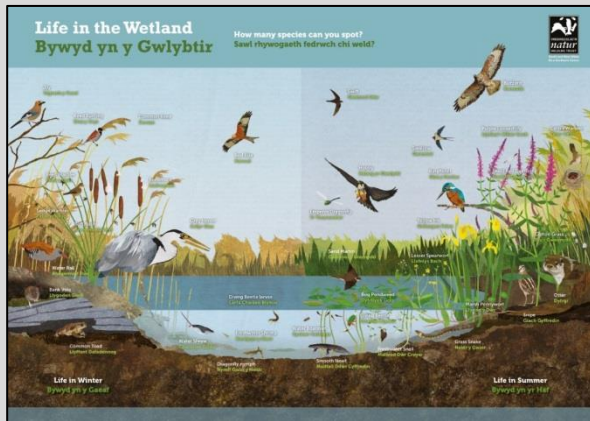
New Interpretation at Teifi Marshes, Pembrokeshire

Our Teifi Marshes nature reserve is one of the WTSWW's jewels in its crown of sites, not only for the range of habitats and wildlife it holds yet also for its popular visitor centre that attracts over 75,000 visitors a year. It has an extensive network of footpaths that pass through the many different habitats, allowing visitors to immerse themselves within the natural environment. Hand in hand with enabling good access on our nature reserves comes the element of educating and informing visitors of the wildlife that can be seen.



Most WTSWW reserves will have some sort of interpretation on site, through such mediums as posters, panels, maps, leaflets or audio posts. There were a number of panels at Teifi Marshes which needed updating and so efforts were made to secure funding to produce new ones. We were fortunate to receive monies from Co-op's Welsh Wildlife Heroes grant and the Pembrokeshire Bird Group to produce 4 new panels. All of these were based on species identification and included bird song and wetland species. Panels were erected in bird hides and along footpaths.





Most interpretation for Pembrokeshire reserves is produced in house with staff being competent in the use of software design and illustrating packages. However, there are times when the complexity of what you are trying to interpret requires external, professional support. This tends to be rather expensive and so if required funding is usually sought. We are very grateful to Co-op and the Pembrokeshire Bird Group for enabling the production of the new interpretation panels.

Nathan Walton
Wildlife Trust Officer (Pembrokeshire)

3. Wider Countryside

3.1 Introduction to our wider countryside work

Most of the work detailed so far has related to conservation delivery on our own land holdings. Managing our nature reserves demands a great deal of investment of time and money, and protects many vulnerable habitats and species. However, we only really reach the scale of audience that we need to reach if we extend our work to the wider landscape, and to people and places wholly unconnected to our own sites. We deliver a great deal of work each year by working in partnership, and delivering species or habitat focussed projects at a wider landscape scale. Some of this work is described below.

3.2 Partnerships

Much of our wider countryside work is dependent upon working in partnership with government agencies, the private sector, and other conservation charities and volunteer groups. This extends our reach and influence and can also lead to increased ability to access funding, knowledge and skills. Because WTSWW is a local charity with staff based throughout our area, our staff are able to build very strong local links with other delivery partners and represent the Trust in local partnerships.

Working with Natural Resources Wales to achieve effective Grey Squirrel Control in the Mid Wales Red Squirrel Focal Site

The main reason that red squirrels have persisted in the mid Wales forests is due to the poor quality of habitat for squirrels. The vast swathes of plantation forestry, dominated by small-seeded sitka spruce provide little sustenance for squirrels of either species. The lack of available food means that red squirrels can hang on at a low population density, in mid Wales over fifteen thousand hectares of forestry support around three hundred individuals. Grey squirrels, with a higher calorific requirement, find it more difficult to survive in such poor conditions.

In Britain, grey squirrels dominate food supplies in broadleaved woodland, leaving little food for red squirrels; they also present a health risk, carrying Squirrelpox virus, which is fatal to red squirrels. Therefore the main limitation on red squirrel survival in Britain is the presence of grey squirrels. Although grey squirrels do not find the conifer plantations that make up the Mid Wales Red Squirrel Focal Site (MWRSF) attractive, they will periodically venture into the Focal Site, especially when population densities in adjoining broadleaved woodland are high. Any grey squirrel presence in the core of the Focal Site poses a significant threat to the fragile red squirrel population. It is therefore important to catch and dispatch any grey squirrel that ventures in..



Natural Resources Wales (NRW) manage over sixty percent of the forests in the MWRSF. Each year NRW issue a contract to control grey squirrels in select Welsh Government owned forests in the MWRSF. However, although any number of grey squirrels in the red squirrel zone can have a detrimental impact on the whole mid Wales red squirrel population, catching a few grey squirrels in several thousands of hectares of thick forestry is not an easy task. For several years the annual

NRW grey squirrel control contract has not been successful. In 2018 the contract resulted in two grey squirrels being removed for the Focal Site; this was an improvement on the results of the preceding few years, when no grey squirrels at all were dispatched under the NRW contract.

The WTSWW red squirrel project occasionally captures grey squirrels on camera as part of red squirrel survey efforts. Results are always passed on to NRW Forest Managers. However, unless a control contract is in place at the time, the sightings are not followed up by NRW staff. In 2018, following several years of low success for the NRW grey squirrel control contract, NRW was considering halting the issue of the annual grey squirrel control contract and instead spending NRW funds on other areas of red squirrel conservation. WTSWW and the Red Squirrel Partnership that we are part were keen to encourage NRW to both continue and to improve the effectiveness of their grey squirrel control efforts.

In late 2018, grey squirrels were detected at two of the sites in the east of the MWRSF where project volunteers were undertaking camera trap surveys. As our Grey Squirrel Control Officer is based in the west of the Focal Site, logistically it has been very difficult for him to follow up grey squirrel sightings in the east of the Focal Site with control exercises. However, having previously detected red squirrels on site, our survey volunteer Keith was keen to clear grey squirrels from the area of the Irfon Forest where he was working. Despite concerted efforts, after two weeks of trapping, Keith hadn't managed to capture a single grey squirrel in the Irfon Forest.

Once the new NRW contract was issued in January 2019, Both Keith and the Red Squirrel Officer acted quickly and reinstalled trail cameras in the locations where we had previously detected grey squirrels in both NRW managed forests the Irfon Forest and in Esgair Dafydd. The results were passed on to the NRW contractor, who worked closely with the project and

acted on our records of grey squirrel presence.



By February 2019, the NRW grey squirrel control exercise had resulted in eleven grey squirrels being removed from the core of the MWRSFS. This may seem like a low number, but in the core of the Focal Site, every grey squirrel counts, and this is a vast improvement on the results of previous NRW control exercises in the MWRSFS. We plan to work in a similar way with NRW in the future.

*Becky Hulme
Red Squirrel Project Officer*

Saving Gower's water voles

When Natural Resources Wales (NRW) approached WTSWW and our sister trust in Gwent to carry out an assessment of water voles on Gower there was a degree of surprise. While both Trusts had a proven track record for water vole management (at Ffrwd Farm Mire and Magor Marsh respectively) there were no recent water vole records for Gower, and it also lay outside the core areas set out in the Welsh species conservation strategy. However, NRW were keen to take forward a species project on the peninsular and before they could justify action and investment they needed to get a better understanding on what the current status was. So working with Lowri Watkins in Gwent, WTSWW agreed to produce a joint report. NRW also brought in Geoff Liles and our very own Rob Parry as independent consultants to provide some practical assessments of habitats and together a comprehensive assessment of the past, current and potential future conservation of water voles on Gower was put together.

The report identified that, as in much of south Wales, water voles had probably been present on much of Gower but numbers had dwindled, not least after the arrival of non-native American mink. However, it also found that there were still small numbers present along the north Gower coast, bordering the Burry inlet, and that there was clear potential to expand this population through habitat enhancements and improving connectivity. A number of



'corridors' were identified within Gower linking up sites such as Oxwich marshes and Llangennith moors, included our own sites such as the Dranges, with the North Gower population and a timetable and action plan for reinforcement and potential re-introductions was produced. The report

is now with NRW who were looking to put together a steering group and seeking funding to take forward the project. WTSWW have already been invited to take part in the first step, monitoring and managing mink, and hopefully will be fully involved with any future work.

*Kerry Rogers
Conservation Manager*

3.3 Representation on external committees

The Conservation Team represents WTSWW and the Wildlife Trusts in Wales on a number of local and national committees, and our staff share their individual expertise on a wide range of external committees across our patch. This increases our networking opportunities, improves our partnership working, allows us to increase our reach through advocacy and lobbying, and helps us stay up to date with the latest developments in the wider policy world. The list below is not exhaustive but gives a flavour of the variety of panels, committees and partnership in which our staff were represented during 2018-19:

*Biodiversity and Ecosystem Evidence and Research Needs Programme
Bridgend Local Nature Partnership
Caerphilly Local Nature Partnership
Cardigan Bay Fisheries Local Action Group (FLAG)
Carmarthenshire Nature Partnership
Ceredigion Meadows Group
Ceredigion Nature Partnership
Ceredigion Rural Crime Forum
Coed Lleol
Coppicewood College Committee
Denmark Farm Board of Trustees
Dowrog Grazing Association
Friends of Llandyfeisant Church group
Gower AONB Grant Panel
Healthy Hillside Partnership
Qinetiq Conservation Group
Llangorse Lake Advisory Group
Mary Gillham Project Steering Group
Mega-catchment Steering Group
Merthyr Tydfil Local Nature Partnership
Mid Wales Red Squirrel Partnership
Mynydd Mawr Steering Group
Neath Port Talbot Nature Partnership*

*Pembrokeshire Bird Group
Pembrokeshire Coastal Forum
Pembrokeshire Nature Partnership
Pembrokeshire Sustainable Agriculture Network
Pembroke Millponds Action Group
Pembrokeshire Wildfire Group
RCT Biodiversity Partnership
Red Squirrels United
Skomer MCZ Advisory Committee
Swansea Biodiversity Partnership
Upper Ely Marsh Fritillary Steering Group
Vale of Glamorgan Biodiversity Partnership
Wales Mammal Biodiversity Action Forum
Wales Squirrel Forum
WBP Invasive Non-native Species Group
Welsh Beaver Project Steering Group
Welsh Records Panel (Welsh Birds Rarities Committee)
Wild Seas Wales Consortium
WTW Living Seas Group
WTW Wider Countryside Group
WWBIC Board of Directors*

WTSWW staff are also engaged in a number of internal or affiliated groups, such as Local Group committees, the Islands Conservation Advisory Committee, and many more.

The case study below gives one example of partnership groups or committees to which WTSWW staff contribute.

The Friends of Llandyfeisant Church, Carmarthenshire

Llandyfeisant is a tiny little church nestled within the Trust's Castle Woods nature reserve in Llandeilo. It has a long history within the Dinefwr estate, and served a tiny parish with church services being attended by the family and staff of the estate as well as residents of just one or two local roads. It was abandoned as a parish church in 1961, and subsequently deconsecrated, though it remains a listed building. The church had long had periods of both splendour and decline over its history, depending on the varying generosity of its patrons. As its use as a parish church declined during the 20th century, so did its condition once again.



WTSWW (then the West Wales Trust for Nature Conservation) took on the woodlands that became Castle Woods nature reserve in 1979. By 1980, they were asked if it would undertake the restoration and rehabilitation of the church, which was then in a sad state and quickly disappearing under encroaching vegetation. It was considered, in their words at the time, a 'daunting task'- but the Trust and its dedicated local volunteers agreed, with the objective of turning it into a visitor and education centre. The Trust took on a lease, from the Church in Wales, for the building and graveyard. Ian Watt, a local volunteer, drove the campaign, with assistance from Manpower Services work teams, grants from the Prince of Wales Committee, Cadw, Dyfed County Council, and many other grants and donations. The conversion was completed by mid 1986.

For a number of years the church was run as a very successful visitor centre. However for various reasons it had closed by 1994. Amongst the changes leading to this was the acquisition of the main part of the estate by the National Trust and the opening of the main drive to the public, where previously they would all have accessed the woods and castle via the church.

The church then entered another period of decline, with dry rot occurring in some of its timbers, and the building gradually suffering from being closed up. WTSWW found itself in a difficult situation; bound by a lease requiring repairs to be undertaken, but with insufficient tenure on the lease to support funding applications.

In 2018, local resident Beth Davies set up a petition to save Llandyfeisant Church, from which grew an active and engaged Facebook community. A group of interested local residents formed, with a view to supporting the church's restoration. Both the Church in Wales and WTSWW now sit on this committee as ex officio members. The group is in the process of constituting itself officially as the Friends of Llandyfeisant Church, and thanks to the Church in Wales and the Friends group, progress is being made towards the restoration of the building. Fundraising has begun.



Friends of
Llandyfeisant Church

There is a long way to go, but it is fantastic to be part of a community-led initiative that hopes to take on and secure the future of this picturesque little church.

*Lizzie Wilberforce
Conservation Manager*

3.4 Planning

Influencing local planning decisions, either through individual site casework or through responding to consultations on strategic documents, is a significant route through which WTSWW can influence the fate of wildlife in the wider countryside of south west Wales.

At present, WTSWW does not have the capacity to systematically review planning lists. However, we do engage in large, strategic individual developments such as the Swansea Bay Tidal Lagoon, or, for example, large applications such as poultry units or wind farms, which may represent significant threats. We also respond, when we can, to local applications flagged up by members and concerned members of the public.

An additional and important tool for WTSWW is to input to the large-scale strategic planning processes, which direct how smaller planning applications and land management will be guided and consented in the future. This also helps us to engage in local, positive initiatives for conservation driven by strategic documents such as Local Development Plans (LDPS), such as in the case study below.

Local Nature Reserves in Merthyr Tydfil

A Local Nature Reserve (LNR) is a designation which can be given to an area of land by the local authority and which should afford that land protection and management of its natural features. LNRs should be publicly accessible to visitors and so creation of LNRs can provide local people with access to a green space.

For many years Taf Fechan nature reserve and SSSI has been the only local nature reserve in Merthyr Tydfil. The reserve is owned by Merthyr Tydfil county borough council and is managed by WTSWW, with management input from Natural Resources Wales and a panel of local interest groups. Taf Fechan is highly valued by local people for its heritage and its importance as a place where they can access nature, but it's also a destination for visitors who will travel to walk alongside the impressive river gorge and through the woodland on the way up towards the Brecon Beacons National Park. WTSWW recognises the importance of the provision of other such high quality green spaces within Merthyr and the part that LNR designations might have in protecting these areas and initiating the work which may be needed to improve and manage them.

WTSWW have been working for the past 2 years on a Welsh Government Rural Development Programme funded project with the Small Woods Association called Connecting People and Nature which primarily



aims to encourage local people to access green spaces within Merthyr in order to benefit the health of the landscape, individuals and the community. The project is based on four Merthyr Tydfil County Borough council owned sites in the local communities of Bedlinog, Vaynor, Aberfan and Gellideg. These locations were identified through the Open Space Strategy which was a document produced by the council to set out a long term framework to protect and develop a network of high-quality open spaces.

The Connecting People and Nature project has so far achieved a wide range of benefits, including engaging over 300 volunteers to create bird boxes, plant bulbs and flowers, pick litter and more. Local people have joined us in their local green spaces and learnt how to identify the trees, birds and bugs, they have been shown how to use natural materials to craft willow wreaths, make baskets and art, and they have enjoyed taking part in wildlife surveys using bat detectors and moth traps. Working on these sites has helped to build up an evidence base to show that these spaces are valued by local people and that there is demand for more opportunities in their local green spaces.

In order to safeguard the sites for continued community use in the future one of the aims of the Connecting People and Nature project was to work towards having the sites designated as Local Nature Reserves. Merthyr Tydfil County Borough Council is replacing their current Local Development Plan (LDP) with one which will run from 2016 until 2031, and after consulting with WTSWW the council included a proposal for 12 LNRs in the new LDP, including the 4 sites which we are working on with the project. We hope that this proposal will be accepted and that through our project we can not only support local communities in their green spaces now but leave a legacy which continues to see these areas being managed and used by local people.

*Lorna Baggett
Valleys Reserves Officer*

3.5 Consultation responses

Directly as WTSWW and also through contributions to responses led by Wales Environment Link (WEL) and Wildlife Trusts Wales (WTW), Conservation Team staff input into a number of consultation responses during 2018-2019. This is a key mechanism by which we can influence future policy and legislation in favour of the environment.

Responding to Consultations: a Pembrokeshire case study

As part of ensuring that WTSWW has a say in the way policies, strategies and legislation are formed, we respond to numerous consultations across a range of topics. We influence decision makers and give a voice to wildlife in danger. We also monitor planning applications within our area and make comments where appropriate on the potential effect of the proposals on nature conservation.

This past year has seen the following consultations come through the Pembrokeshire arm of the Trust, all of which have been viewed and most of them have had an input from us;

- Pembrokeshire Coast National Park's Recreation Plan

- Pembrokeshire County Council's Supplementary Planning Guidance
- Management measures for widely spread Invasive Alien Species (IAS) in England and Wales
- Pembrokeshire Coast National Park's Management Plan
- Natural Resources Wales's Challenges and Choices
- Pembrokeshire County Council's Local Development Plan 2 Candidate Sites
- Welsh Government's Sustainable Farming and our Land post Brexit

The last of these is one which the Pembrokeshire Wildfire Group, of which WTSWW is a member, responded to. The Group's perception is that the risk of significant and dangerous wildfires is increasing – mainly due to increased vegetation fuel loading. The fact that wildfires are now becoming more of an issue can be seen from recent news and press releases.

The Group's view is that future public support to farmers and graziers should be used to:

- Ensure that farmers and graziers have appropriate resources to sustain grazing regimes that are critical to the management of vegetation fuel loading
- Ensure that farmers and graziers have appropriate resources to manage wildfire high risk areas be controlled burning or by the cutting and removal of vegetation
- Ensure that training packages to farmers and graziers include advice on the development and implementation of controlled burning plans
- Ensure that all schemes resourced by the new support package do not increase the risk of wildfires. Specific consideration should be given to tree planting, carbon sequestration measures and re-wilding proposals in this context.
- Recipients of funding from the proposed schemes should state the means by which they will prevent increasing wildfire risk from publically funded activities

Along with responding to consultations and planning applications, we also provide advice to landowners, from members of the public to farmers, businesses and local authorities, on how best to manage their land for wildlife. We work in partnership with key agencies to ensure that the necessary legislation and policies are in place to conserve and enhance the region's biodiversity.

Nathan Walton
Wildlife Trust Officer (Pembrokeshire)

Brexit and our Land: a Welsh Government Consultation

During 2018, Welsh Government consulted the nation on the “basis on which the Welsh Government proposes to continue to support farmers after Brexit.” It outlined proposals for a “planned, multiyear transition”, seeks views and ideas on “how the specific schemes that will deliver the support should be designed”.

The level of uncertainty Brexit has created in Wales (and further afield) has also affected WTSWW – not just in terms of the potential future effects on grant and agri-environment funding, but also in the contribution that we would aspire to make when it comes to

influencing government planning and responding to the many consultations on their future work.

We are fortunate that for these big national consultations, the response is normally led by Wildlife Trusts Wales, with the option for the five other Trusts in Wales to input to the combined response.

“Brexit and our Land” closed at the end of October 2018, and WTSWW fed comments into the co-ordinated response from Wildlife Trusts Wales.

Our response presented the case for the perilous state of our natural environment, and the unsustainable practices that have been supported over recent decades, in agricultural and forestry policy. We argued strongly that ‘business as usual’ was no longer an option. We argued that policy should align with the Wellbeing of Future Generations act, including adopting a public goods approach (where landowners are paid to undertake positive works for public benefit), to invest to halt declines in biodiversity, and to improve regulation (including monitoring and enforcement) to ensure payments are for actions above and beyond an improved regulatory ‘floor’.

This was a large and complex consultation in an area of work that continues to evolve, but all the Trusts will continue to work together to try and establish better policy for biodiversity in Wales.



Lizzie Wilberforce
Conservation Manager

3.6 Local Wildlife Sites

Local Wildlife Sites are a core element of the work of the Wildlife Trusts in the wider landscape. We carry out support and survey work ad hoc within our existing work programme, however when capacity and funds allow we boost our work for specific elements of delivery. The example below is one that has carried over from Brecknock Wildlife Trust through the merger and is a partnership of the three Wildlife Trusts that deliver in Powys (WTSWW, Radnorshire Wildlife Trust and Montgomeryshire Wildlife Trust).

Local Wildlife Sites - Recording on Local Wildlife Sites.

We have almost completed 3 years of re-surveying existing local wildlife sites and potential new ones for a Powys-wide project called *Where the Wild Things Are*. This wouldn't have been possible without volunteer help particularly but not only from the Botany Group. When a group of botanists hit a site the species count shoots up! It's not only having extra pairs of eyes you benefit from, but also a group enthusiasm to keep looking for stuff whatever the weather. In a group you are more inclined to take the time to identify the more tricky things by going through keys and one person can read the key while the other looks at the plant!

Fortunately particularly in the first year of the project we were able to visit sites that John Crellin the Brecknock Botany Recorder, (joint with Mike Porter), wanted to visit to fill gaps for the 2020 Atlas of Plants. For this atlas BSBI (Botanical Society of the British Isles) encourages their recorders to cover every inch of the county*. (* all records of plants up to the end of 1999 need updating by the end of 2019!.)

One of the most interesting and revealing features has been their database that can tell the County Recorder what things haven't been re-found for a long time. A layman's impression is that species are being lost from Nature Reserves and Local Wildlife Sites but then we have also found new stuff on other sites and reserves. It would be good to analyse this further.

With the pressure on to complete the work for the BSBI atlas we found in the second and third year that our usual volunteers were very stretched, and our relatively recently and well surveyed Local Wildlife Sites (we were targeting sites not surveyed since 2007 -2009), were not a priority for BSBI Atlas recording!

Local Wildlife Sites recording is also greatly supported by other special interest groups and has benefited from the appointment of a Communications Officer at BIS (the Powys Local Environmental Records Centre), who has been able to coordinate local recorders and 'bioblitz' events this year. In the past, this sort of event may have been organised by the Conservation Officer or Manager in the pre-merged Brecknock Wildlife Trust but with the reduction in staffing this new arrangement works well. The Bioblitz events bring together recorders and are a great chance for recorders to socialise as well as find a broad range of species at a site. It's also a great opportunity for beginner / intermediates to gain tips from more experienced/expert recorders!

*Steph Coates
Wildlife Trust Officer (Brecknock)*

3.7 Wider Countryside Projects

This section details the results of just some of the larger wider countryside projects which we have delivered during the year. Each of these projects has received significant external funding, and often employed dedicated Conservation Team staff time in their delivery. These projects are exemplars of our impact and reach, beyond the boundaries of our nature reserves, and exemplify delivery of landscape scale conservation, often taking an ecosystem approach.

3.7.1 West Glamorgan's Wild Woodlands



West Glamorgan's Wild Woodlands was a three year project that began in 2015 and completed in August 2018. The project was funded by WREN, a not for profit business that awards grants to community projects from funds donated by FCC Environment to the Landfill Communities Fund.

Habitat management was undertaken to restore and maintain key woodland and integrated open habitats on a number of sites across west

Glamorgan. Our own nature reserves in the project included 29ha of land where work was required to fulfil the status of ‘maintain condition’; land which contributes 0.02% of the national 123,321 ha target for the UK. A total of 86.3 ha of nature reserve was allocated to the ‘achieve condition’ (restoration) category, which counts for 0.24% of the overall 35,530 ha target of native woodland in the UK. We carried out 13 days of coppicing at Gelli Hir, 16 at Prior’s Wood and 35 at the Dranges. We also delivered 27 days of woodland thinning at Prior’s Wood and 31 at Gelli Hir.

Under the UK Broad Habitat Neutral Grasslands category, Swansea’s Local Biodiversity Action Plan (against which this project was designed) lists Lowland Meadows as a target priority habitat- of which we have 18.1 ha within our sites in the Swansea and Neath Port Talbot Counties, covered by the WGWW project. This contributed 1.3% towards their target. These reserves included Dranges, E&R Harding, Llanrhidian Hill, Killay Marsh and Prior’s Wood & Meadow. These meadows have mostly been slowly restored over the three years of the project, each year pushing the condition in a more favourable direction toward favourable status. This has been achieved by mowing and raking, ensuring grazing and tackling encroachment and invasive species.



Managing Invasive Non-Native Species (INNS) was also a major focus. During the three years, 12 tonnes of Himalayan balsam have been pulled and composted at Gelli Hir. A third of an acre of 12” rhododendron has been cut and cleared from the woodland at Coed Gawdir. Glyphosate has been successfully used in the extensive treatment of Japanese knotweed across Llanrhidian Hill, E&R Harding, Kilvrough, Gelli Hir, Killay Marsh, Craig Cilhendre, Baglan

Badger Sett and Melincwrt reserves, mitigating a major and long term threat to the habitats at these sites. Over 12 rolls of sheet plastic have been spread over crassula (an aquatic INNS), preventing photosynthesis and reducing its dominance of the ponds it was recorded in. Additional efforts include the clearance of cherry laurel, cotoneaster, bamboo, three-cornered leek and other invasives. This represents a huge step forward in INNS control and the long term benefits of this investment cannot be over-stated. Non-native species have been actively controlled on minimum of 85.5 ha of priority habitat.

A total of 270 volunteer work parties took place in delivering the achievements above, totalling 780.5 volunteer days from September 2015 to August 2018. This is an increase on previous years, and we have learned through WGWW project how to give even more volunteers more rewarding and valuable experiences. We were also pleased to achieve an average of 18% student engagement, increasing this was an aspiration of the project from the start.

Tara Daniels
West Glamorgan's Wild Woodlands Project Officer

3.7.2 Glastir Small Grants at Carmel, Carmarthenshire

One of the main activities that took up a many of our volunteer work parties last winter was the laying of 176 metres of mature hedge at our Carmel National Nature Reserve. This project has had numerous biodiversity benefits, and also enabled us to engage with local people from Carmel village.

The hedge was tall, several metres thick in parts, and had a wide margin of bramble on the field side. There was the main 3 strands of barbed wire fence that was still just about functioning, but also the remnants of another 2 fences within the hedge. The volunteers' first major task was to clear the years of bramble back and remove all the old fencing. Several days of bonfires were needed to get rid of the bulk of old bramble and brash.



The hedge was a lovely age to lay, being mature but before it got too gnarly and brittle. The majority of the trees were hazel but we were also able to retain and lay some ash, blackthorn and hawthorn. With such good material it was easy to get a lovely thick base with plenty of decent pletchers. Some of the material that had been cut out was woven back in, thickening it further and providing dead wood habitat for invertebrates and fungi (including the rare hazel glove fungi found whilst working).

The finishing touch was feathering across the top, using the stakes as grips. We used long pieces of bendy hazel, also from the hedge, and twisted them together, this served to strengthen the hedge and pull it all together.

The previous hedge had been so wide we chose to coppice, and subsequently rejuvenate a strip of woody vegetation running along the field. Whilst working we had a good motivating example of why we were doing the work. On the other side of the lane from where we worked there was a hedge in private ownership. It is flailed annually. The hedge has exposed damaged wood and is full of gaps, making it easy to see through in numerous places. The opportunities for wildlife inhabiting and feeding from such a hedge are few.

By the end of February we were coming to the end of laying. An amazing feat for the volunteers, many of whom had little experience of hedge laying and were only using hand tools! The next task was to erect a new fence. Luckily the staff from the WTSWW got together over 2 days and used it as a training exercise, and we received excellent tuition from Lyn Evans, lecturer from Pen Coed College. We sourced sweet chestnut posts from the Forest of Dean. These should last longer, due to the natural tannins in the wood. The fencing proved difficult, the bed rock was close to the surface at times and we experienced torrential rain, however we managed to achieve most of it. Thankfully the volunteers came to the rescue again and were able to finish the job.



Thanks to Glastir Small Grants (Welsh Government) for funding the project, Lynn, and WTSWW staff who helped with the fencing and lastly the volunteers for being so driven and committed to turn up tirelessly week after week in all weather conditions.



*Becca Killa
Wildlife Trust Officer (Carmarthenshire)*

3.7.3 Local to Landscape Links

In 2018 we successfully secured funding from NRW's new grant scheme for a project that runs from September 2018 through to December 2019. With a grant intervention rate of 50% our PPL Pioneer funding support was critical for enabling us to access this fund alongside supporting our essential reserve management activities and marine project.



This is a critical time for working with NRW as they are developing Area Statements across Wales as a result of the new Environment Act. The Area Statements are intended to guide all conservation delivery and influence future grant programmes and planning etc. The outputs of this project include “adaptive landscape management plans” that use spatial data collected through the project and a network of nature reserves and local wildlife sites to demonstrate how a functional Living Landscape exists and could be enhanced within the southern area of Rhondda Cynon Taff. Partners in this project hope to deliver a Living Landscape programme as an outcome of this project.

The project is a true team effort both within WTSWW – the staff involved in the project include the Conservation Manager, Wildlife Trust Officer (Bridgend and Vale), Conservation Officer, People and Wildlife Officer, Valleys Reserves Officer and Volunteer Coordinator with fantastic support of their existing and newly engaged volunteers. In addition external partners include the Coalspoil Biodiversity Trust, Butterfly Conservation, Local Authority staff, NRW, Gwent Wildlife Trust and local communities with whom we have carried out site based habitat enhancement and training days for trainees, volunteers and families.

NRW Local to Landscape Links Volunteer certificated trainee scheme. This is a new initiative for the trust as a result of working in an area with a number of higher education institutes including, University of Cardiff, University of South Wales, Pencoed College and the University of Swansea all of whom use our nature reserves for the teaching of relevant courses and from whom we get numerous research project request, volunteers, job applications etc. We are developing an approach that uses a structure of introductory sessions and then a self learning “competency” approach where trainees/volunteers can attend any opportunity across the trust and tick of their learning experiences. It also enables them to identify gaps in knowledge and seek out opportunities that are essential for employment but aren’t available on a standard reserves based volunteer work party.

Tara, our Volunteer Coordinator has created a programme of training for volunteers looking to work in the sector. Modules have been created based on broad habitat types relevant to South Wales using our Nature Reserves and Local Wildlife Sites as demonstration areas. In addition an Advanced Unit enables volunteers to learn about the professional aspect of working in conservation e.g. Risk Assessments, Leading Work Parties etc. The units are based on our own internal staff competency system and trainees can gain experience by attending organised unit days or our regular volunteer work parties.

Running the trainee programme through an enhanced volunteer programme enables it to integrate with our regular work (which enables some sustainability and longevity post the project funding) and has enabled volunteers to have more personal support and communication about their needs and ambitions. Running events on Local Wildlife Sites as well as our Nature Reserves has expanded opportunities and formed stronger delivery bonds with local partners.

Within the Local to Landscape Links Project the following impact has been made:

- *32 Community Outreach Volunteer Workparties* have been held at Parc Slip Nature Reserve. Targeted at recruiting new volunteers who are less physically able, supporting them to engage in conservation with less physically demanding tasks.
- *31 activity sessions have been held at Parc Slip Nature Reserve* as part of a regular event, activity and education programme to enthuse and engage all ages including family groups about wildlife of South Wales.
- *7 Community Outreach events have been held at Local Wildlife Sites* to enthuse and engage all ages including family groups about wildlife of South Wales.
- *Attendance at 8 talks/engagement events* to promote the volunteer trainee scheme and wildlife of South Wales.
- *4 training “modules”* created and delivery initiated: Woodlands, Grassland, Uplands and an “advanced” module.
- *34 staff days and 48 volunteer days on improving public access* to green spaces – WTSWW Nature Reserves and Local Wildlife Sites.
- *82 staff days and 168 volunteer days on Habitats and Species projects* on WTSWW Nature Reserves and Local Wildlife Sites

Supported by players of



We owe a huge debt of thanks to players of People’s Postcode Lottery, whose support has allowed us to achieve all this. It must be admitted that fencing, scrub control and monitoring are not the most glamorous of jobs,

and we are incredibly fortunate to be supported by a funder who recognises the absolute importance of them for safeguarding some of our most vulnerable wildlife.

*Sarah Woodcock
Conservation Manager*

3.7.4 Red Squirrels United

2018-19 has been the final year in which WTSWW has received funding from Red Squirrels United (RSU). RSU is a partnership organisation of red squirrel conservation projects, mainly run by Wildlife trusts, across England, Wales and Northern Ireland, and led by The Wildlife Trusts. Since 2016, RSU has used European LIFE and National Lottery Heritage Fund funding to support three years of red squirrel conservation work in Mid Wales, North Wales, Northern Ireland, Lancashire and Northumbria. In mid Wales, the Lottery funding has



supported the Mid Wales Red Squirrel Project, the Mid Wales Red Squirrel Partnership's (MWRSP) WTSWW-led red squirrel conservation project which has been engaged in red squirrel conservation in the Mid Wales Red Squirrel Focal Site (the Tywi forest, around the upper Tywi valley in the Southern Cambrian Mountains) for the last five years. The funding from RSU has enabled WTSWW to employ a Grey Squirrel Control Officer (GSCO) as part of the Red Squirrel project.

Left: Ben Allen, Grey Squirrel Control Officer, installing a red squirrel nest box in Clywedog Forest

For the Mid Wales Red Squirrel project, the final year of RSU funding has been focused on forward planning, and finding further funding to continue the work of the past five years beyond the RSU funded period. However, working as a part of RSU has continued as well, and the emphasis of the RSU funding has allowed the Red Squirrel Officer (RSO) to address the continuity of the project while the RSU-funded GSCO has continued to be able to administrate existing grey squirrel control focused work throughout this period.

Grey squirrel control is seen to be central to red squirrel conservation efforts in mid Wales, and when the project was started in 2014, the RSO set up a Trap Loan Scheme (TLS) to train and support land owners in a buffer zone around the Mid Wales Red Squirrel Focal Site (MWRFS) to trap grey squirrels on their own land as volunteers for the project. With the recruitment of the GSCO when the project became affiliated to RSU in 2016, this volunteer based grey squirrel trapping was increased, with the GSCO administrating the TLS.

Aside from funding, and the work that this facilitates, the other key aspect of WTSWW and the Mid Wales Red Project being a partner in RSU has been the networking opportunities enabled through partnership in a national body. RSU is led by The Wildlife Trusts, but run through a Partnership Management Board (PMB), on which representatives of all partners sit, and this has allowed an inclusive and practical means of identifying and addressing issues which have arisen within the organisation. RSU, as a partnership, and as an organisation funded through two funding streams, has not always been a straightforward

body to be a part of, but as it has developed through the past three years, aspects of it such as the PMB have allowed it to address such issues that have arisen in a way beneficial to all involved.



Above: Knowledge fair delegates in March '19 on the site visit to National Trust Formby, and project volunteer Paul Harry speaking the 2019 knowledge fair

Another important and beneficial aspect of partnership in RSU has been the annual Knowledge Fair. One of RSU's original objectives was to run an annual event where staff and volunteers from all partners could come together to share knowledge and experience in red squirrel conservation. There have now been three of these events, taking place in Belfast, Bangor and Southport. WTSWW/MWRSP have attended all three of these, and have taken a reasonable sized delegation of volunteers to all of them. These events have become a key feature of partnership in RSU, and as well as serving the intended remit of providing a platform for staff and volunteers working on the ground in red squirrel conservation to share knowledge and experience, they have also provided the very important function of embodying partnership in a directly experiential way, by demonstrating that all those involved in this work are part of "something bigger".

It is the nature of much of the work undertaken in an area such as red squirrel conservation, especially in Mid Wales, that much of the day-to-day work happens in isolation. The size and geography of the MWRSPS and its buffer zone, along with the low human population density in the area, and the distribution of centres of human population, coupled with the structure of the TLS means that most individuals, whether staff or volunteers, are working alone most of the time. An event that brings these people together, not just locally, but nationally, and demonstrates the importance of what they are all doing in relationship to other similar work in other areas cannot be underestimated. This bringing otherwise isolated projects and their members together, and giving a wider focus to their work is perhaps the greatest attribute of a partnership organisation such as RSU, and should be seen as RSU's greatest legacy.



*Ben Allen
Grey Squirrel Control Officer*

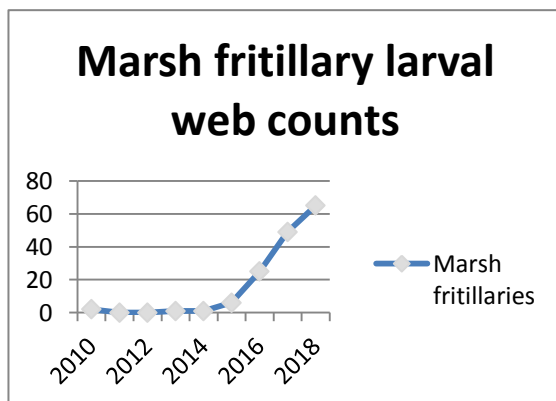
3.7.5 Wild Communities Project – Achievements and Legacies

Funded by the Big Lottery, the Wild Communities Project sprang into action in Cwm Tawe Uchaf (the Upper Swansea Valley) in Autumn 2015. This ambitious 3 year project worked to connect local people and organisations to nature, whilst concurrently teaching tool use, habitat management and wildlife ID skills. A side effect of this involvement has been vastly improved employability and personal wellbeing in an area that falls into the top 10% of most deprived areas of Wales.

People involved: Trainee placements of nine months enabled three people to kick start their careers in conservation. Each had different skills and their contributions were hugely instrumental in the project's success.

The people that engaged with the project came from various referral agencies such as Community Connectors, MIND, Kaleidoscope and the Job Centre, whereas others approached the project having seen posters for the various activities. Over 80 beneficiaries contributed to reserve management, wildlife gardening and skills courses. Of these, 45 moved into employment or volunteered with other organisations which they would not have considered before. In addition to the conservation work parties and wildlife gardening sessions, over 20 skills training days were run. Some like the Reptile & Amphibian Training and Dry Stone Walling taster were informal, whereas First Aid and LANTRA Brushcutter courses had recognised accreditation to help employability. One person was not able to get out due to mobility issues but was keen to plant seeds for us to grow on at the allotment. Thousands of local people were engaged through the 50 plus events connecting people with the environment around them. These included guided walks such as dawn chorus (with breakfast cooked on a campfire), bat or fungus walks and family activity days. The project engaged with three primary schools, helping to re-wild their school grounds and nature themed sessions in the classroom. All of the schools were built recently and were quite barren for wildlife. At Ysgol Bro Tawe 400 tree saplings were planted in a very wet and muddy session to form a hedge around their forest school area. Apparently they survived and are growing well. At Ysgol Golwg Y Cwm, the project ran a session each Easter and summer holiday for their holiday club.

Reserve management and monitoring: The five nature reserves in the Upper Tawe Valley were directly managed by the Wild Communities Project. In all 50 work parties were run. In addition, many of the skills courses were held on the reserves and contributed to their management. The brushcutter courses made a huge dent in the brambles on Wern Plemys.



Having this number of work parties on just 5 reserves enabled a focussed approach to management for wildlife. On Cae Lynden the number of Marsh Fritillary larval webs increase tenfold from 6 in 2015 to 65 in 2018 through scrub management and bramble control. The number of butterflies seen here and on Ysradfawr also increase, largely because there was a local office and staff could nip out when conditions were favourable rather than a day picked because there was a space in the

calendar.

Monitoring of species on all five reserves benefitted from the extra attention. Chris (the Project Manager) had huge enthusiasm for spotting all taxa, which meant that each work party gathered a few records. These he shared with the beneficiaries helping them to become more aware of the small things around them. Also regular guided walks such as coal spoil invertebrates or dragonflies, were held on the reserves and around Ystradgynlais. It wasn't long before beneficiaries began spotting Brecknock firsts including *Geotrupes Spiniger*, a type of dung beetle while cutting bracken on Allt Rhongyr.

Hundreds of records were submitted to Biodiversity Information Service (BIS) through the project term. We were even alerted to a new location for Marsh Fritillaries after an event in Coronation Park. The Wild Communities Project and Cae Lynden Nature Reserve were the focus for Chris Packham's Bioblitz visit which led to over 280 different species being recorded, including Brecknock firsts. We also had the pleasure of Iolo Williams' company on the same day.



Legacies: It is hoped that the Wild Communities Project has sparked the wild side in many people by just getting them involved and showing them how much is there and how to look for it. In addition many of the beneficiaries have new skills which will enable them to find work or keep healthy. At least four beneficiaries have taken plots at the allotments where we ran gardening sessions. The wildlife garden at Ystradgynlais Library is looking wonderful now. A small but dedicated group continue to work on it to keep it tidy and add to the wildlife friendly plants. The project even helped the formerly overgrown Ystradgynlais Library Garden win silver gilt 3rd in last year's Ystradgynlais in Bloom contest in 2018.

'Joining the library garden project has changed my life enormously' Erica Galpin

At Ystradgynlais Hospital, a hedgehog has moved into the box we put in the woodland. There is a woodland and meadow walk for staff and visitors to relax in. CREДУ started growing vegetables with young carers in the beds we cleared of weeds. They are now selling healthy vegetables through the Friends of Ystradgynlais Hospital to raise funds for both the hospital and CREДУ. Apparently they are selling like hot cakes!



ARIENNIR GAN Y LOTERI
LOTTERY FUNDED

The number of records submitted to BIS contribute to the picture of what is living where and make this knowledge readily available for those that need it. Other exciting finds were the Yellow-Legged Furrow Bee, the Little Thorn Moth, and the Black Headed Dwarf Moth (last seen 27 years ago at Llangorse).

Finally a geocache trail of 25 geocaches was set up, linking the three reserves around Ystradgynlais with other green spaces. Each cache has information about a species that can be found in that area creating a nature trail. Most caches have

been visited by over 50 people and continue to be visited by a steady stream of people, often introducing them to these places for the first time. The trail is maintained by Pauline in her own time. Through the logs for the caches we get updates on the reserves. Sometimes these are the species they spot but more often trees that have come down and even a flash fire that had swept through one area of Ystradawr.

*Pauline Hill
Wild Communities Project Officer*

3.7.6 WVCA Landfill Tax Communities Project: Carmel NNR



In October 2018 we were successful in gaining a funding bid from the Landfill Tax Community Fund. The grant awarded supported management of Carmel National Nature Reserve, by bringing a number of wildlife benefits and increasing human enjoyment of the site. This project shall run for 3 years.

During 2019 we have begun to implement some of the project aims. A key strand of the project was to put in infrastructure across the site that would enable us to compartmentalise the grazing. This is important as parts of the site were getting more attention from the cows than others. This was leading to too heavy grazing in parts and issues of poaching in wet years. The infrastructure identified as being necessary were more water drinkers (previously one drinker served a

17 hectare compartment), plus new gates to replace some pretty dilapidated wooden ones. This year we have replaced 7 gates and the foundations have been laid for 3 new drinkers.



The project has also paid for a hedgelayer to lay 150 metres of roadside hedge in a crop and pletch Carmarthenshire style. This has the purpose of maximising habitat potential for all hedgerow species including invertebrates, small mammals and birds. Plus it is hoped that visitors to the site and neighbours will appreciate and gain some enjoyment from the work carried out, a newly laid hedge being a lovely thing to look at.

Within the project we were also able to secure some money to support staff time. This has been a real aid in helping us deliver some of the crucial ongoing management that Carmel needs. So far that has included clearing bramble, rolling bracken, and tackling problem non natives such as cotoneaster and Himalayan balsam. As well as carrying out some grassland monitoring to inform future management.



Cynllun Cymunedau y Dreth Gwarediadau Tirlenwi



Landfill Disposals Tax Communities Scheme

This project is funded by Welsh Government's Landfill Disposal Tax Community Scheme, administered by WCVA. Thanks also to Glastir Small Grants for supporting our work on this wonderful reserve.

Becca Killa
Wildlife Trust Officer (Carmarthenshire)

4. Marine Conservation

WTSWW's Living Seas work, through the dedicated staff and volunteer team based at CBWMC in New Quay, continues to go from strength to strength. Research, survey and monitoring projects continue, and the work is supported by many very dedicated volunteers. During the 2018-19 financial year we have been delivering a major HLF bid in partnership with North Wales Wildlife Trust to deliver marine conservation in Wales.

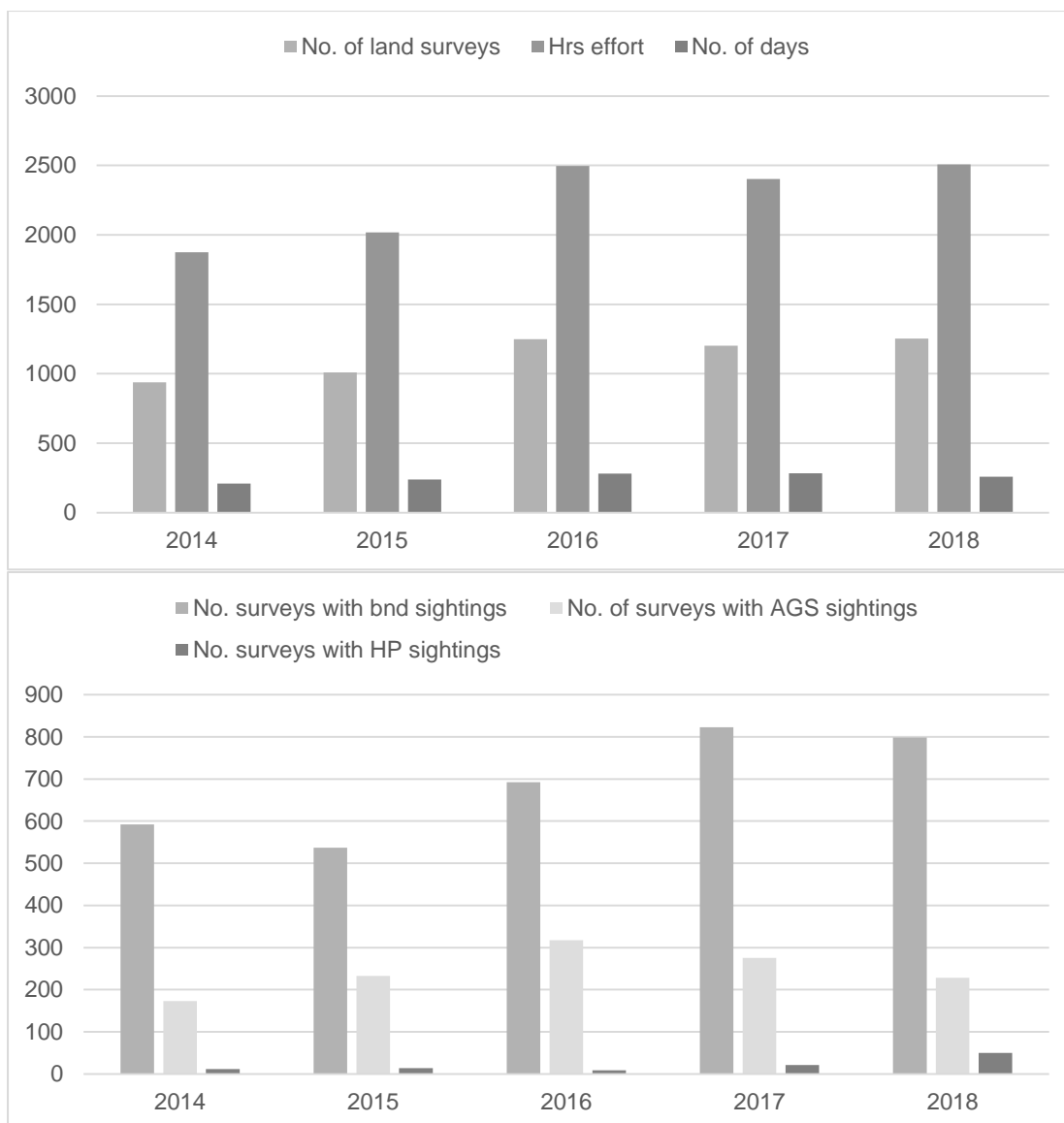
4.1 Living Seas Research and Monitoring

Our Living Seas research and monitoring projects from the Cardigan Bay Marine Wildlife Centre (CBMWC) continued this year with shore based surveys taking place throughout the year and boat based surveys in conjunction with Dolphin Survey Boat Trips (DSBT) from April through to November.

Shore-based surveys

From January to December 2018 a total of 1254 shore based surveys from New Quay harbour wall took place over 258 days during 2018. Bottlenose dolphins were sighted and recorded during 798 of these surveys on 226 days, harbour porpoises were recorded during 50 surveys, mainly from January through until May and Atlantic grey seals were recorded during 228 of the surveys. As in previous years the data collected by our Living Seas team were contributed to the Ceredigion County Council Dolphin Watch project. The data collected as part of these surveys continues to provide valuable information that contributes to the management of the Cardigan Bay Special Area of Conservation and helps to monitor the effectiveness of the local codes of conduct. The resulting Dolphin Watch reports written using data collected by the Living Seas team at the Cardigan Bay Marine Wildlife Centre are available to download from our website and provide further more detailed analysis of the data.

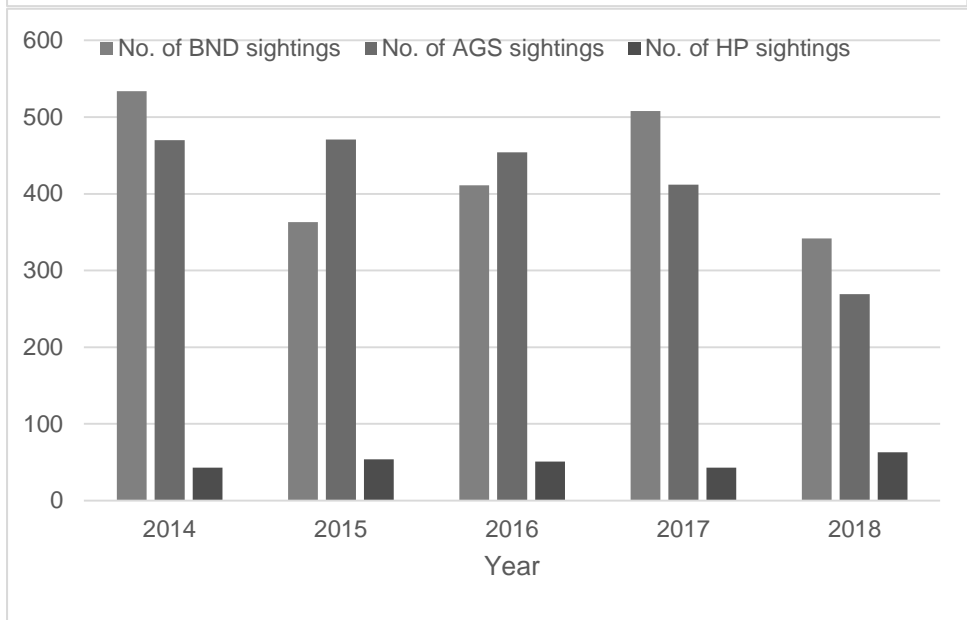
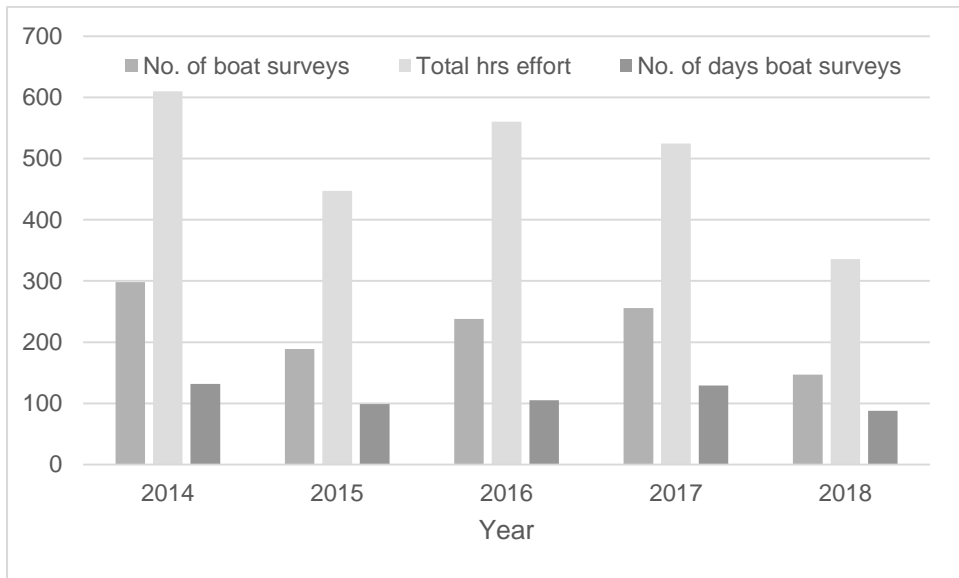
Key to graphs acronyms overleaf: BND (bottlenose dolphin), HP (harbour porpoise), AGS (Atlantic grey seal).



Boat Based surveys

Our long-term collaboration with local eco-tourism operator Dolphin Survey Boat Trips continued during the 2018 field season which enabled us to conduct 147 boat based surveys out from New Quay into Cardigan Bay. Our volunteer researchers spent 336 hours collecting data during boat surveys over 88 days between April and November. A total of 342 bottlenose dolphin sightings, 269 Atlantic grey seal sightings and 63 harbour porpoise sightings were recorded during these surveys. The longer surveys (4 hour and All Day surveys) enabled us to continue collecting data for our Cardigan Bay bottlenose dolphin photo-identification catalogue.

From 2005 to 2018 a total of 1,128 boat surveys were conducted, equating to 2,477 hours of data collection, over 553 days. Data collected through these boat based surveys have been used in various publications including the Atlas of Marine Mammals of Wales 2012, JNCC's Joint Cetacean Protocol, numerous student projects and more recently it has been used to help determine important areas for harbour porpoises in Welsh waters which resulted in the designation of the West Wales Marine Special Area of Conservation (SACs).



Student Projects

Aaron Thomas from Cardiff University carried out the study “An Investigation into behavioural responses of bottlenose dolphin (*Tursiops truncatus*) to vessel activities within New Quay Bay” using shore based data collected between April and September 2018. The study found that dolphins in New Quay bay appeared to present a negative directional response to vessels not complying with the local marine code and seemed to avoid interactions with those vessels. Interestingly the dolphins in New Quay bay appeared to demonstrate familiarity and recognition to certain vessel types that routinely operate within the bay. The full report is available to download from our website.

Sarah Perry
Living Seas Manager

4.2 Living Seas Wales Project

The Living Seas Wales Project was officially launched on the 7th June 2018 at the Volvo Ocean Race in Cardiff Bay. The project is a collaboration between WTSWW and North Wales Wildlife Trust and has been funded by the National Lottery Heritage Fund. Thanks to money raised by National Lottery Players the project provides Welsh people and visitors with the opportunity to learn about and enjoy our marine environment, through a range of events, activities and volunteering opportunities.



Living Seas is The Wildlife Trusts' vision for the future of UK's seas. Within Living Seas marine wildlife thrives from the depths of the ocean to the coastal shallows. We know our seas are at a turning point and as well as our advocacy work with the Welsh Government and Welsh politicians, we believe that local people, local communities and coastal visitors are the key to help reverse the decline in marine wildlife.

Our Living Seas Live Roadshow made a big splash during the summer of 2018, with our WTSWW Living Seas Team visiting Countryfile Live, Swansea Air Show and eight coastal locations including Aberavon, Martin's Haven and Fishguard. As part of the roadshow visitors were able to dive with common dolphins using our VR headsets and immerse themselves in our Sea Wales 7D augmented wildlife experience (with some visitors getting a bit wet). Visitors were able to discover more about Welsh marine wildlife and habitats and how they can become involved in marine conservation. We engaged with over 3,500 people, inspiring them to love our seas and to take action to help protect our marine environment.

Over the past year we have also been recruiting a team of dedicated volunteers and Living Seas Champions to help us with our vital marine research and community engagement work. WTSWW's Living Seas team have trained a staggering 82 volunteers over this time! These volunteers assist with a range of activities including Dolphin Watch and Shoresearch surveys, engagement events such as rock pooling and beach cleans as well as running our Cardigan Bay Marine Wildlife Centre in New Quay.

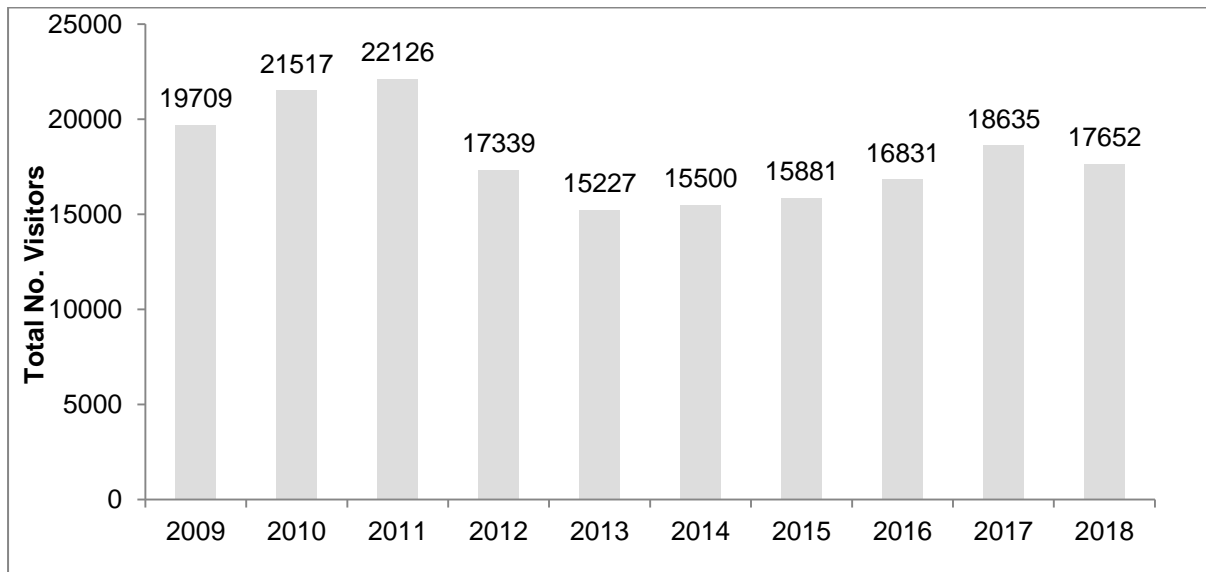


The Living Seas Wales Project is funded until September 2020 and the Roadshows, wildlife events and volunteering opportunities will be continuing throughout 2019.

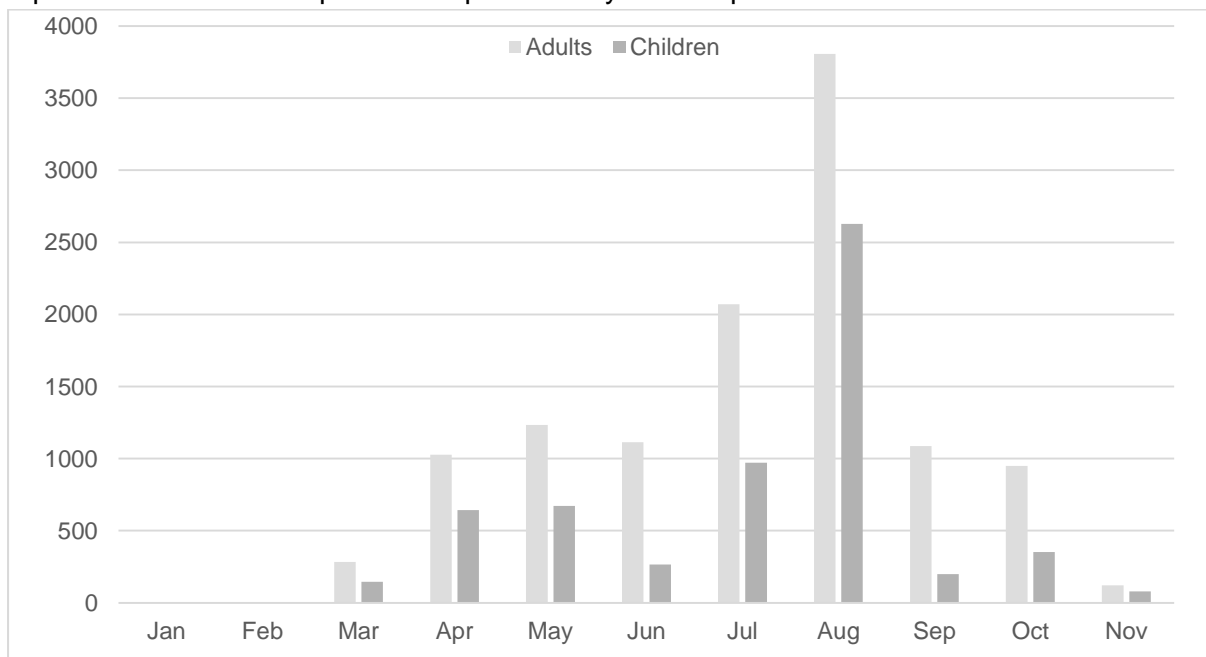
*Laura Evans
Living Seas Officer*

4.3 Cardigan Bay Marine Wildlife Centre round-up

The Living Seas team of staff and volunteers at the Cardigan Bay Marine Wildlife Centre welcomed our first seasonal volunteers of 2018 in early March ready to assist our staff and local volunteers with our main field season. After a spring clean our visitor centre was ready to open its doors on the 28th March in time for the Easter holiday. From opening until early November we welcomed over 17,600 visitors through our doors, between March 2009 and November 2018 over 180,417 people have been into the CBMWC visitor centre.



In 2018 the greatest numbers of visitors came through our doors in August with almost 6,500 members of the public visiting to find out about our local marine wildlife or to book on a boat trip with our ecotourism partner Dolphin Survey Boat Trips.



Throughout the year our Living Seas volunteers contributed over 13,000 hours to the activities of the CBMWC including research and monitoring work, outreach and engagement

activities, manning our visitor centre and helping to keep our sea, coast and beaches litter free through beach cleans.

Additional Living Seas work:

Wild Seas Wales

In 2017 we joined a consortium of representatives from a number of likeminded organisations within Wales as part of a Marine and Coastal recreation project led by representatives from Natural Resources Wales (NRW). As a group we discussed ways of working more closely to deliver against marine conservation priorities and bring together existing good practice guidance, including sharing information on the development of our Living Seas Wales project. In 2018 the consortium agreed to the creation of the Wild Seas Wales partnership to promote responsible marine recreation in Wales during the Year of the Sea (2018) and beyond. Our Living Seas staff input into the development of this project and subsequent aspects of the project including the development of a website to promote key messages, animations to highlight and provide information regarding responsible recreation and a platform for a one stop shop for all the marine codes and other marine related information from around Wales. The Wild Seas Wales website was launched in mid 2018, the project and consortium is ongoing.

*Sarah Perry
Living Seas Manager*

5. Campaigns

5.1 My Wild Cardiff Gardening Year Social Media Campaign

Over the past few years we have been working in Cardiff under the banner of our 'My Wild Cardiff' project. One of the larger aspects of the project (My Wild Garden) has focused on improving the capital city for wildlife by inspiring people to take action for their wild spaces, particularly their own gardens. In 2017, as part of the project, we produced a month-by-month guide to wildlife gardening. The guide gives suggestions each month of what to grow or make in your garden to make it wildlife friendly. We also ran a 'pop-up' wildlife garden in Bute Park at the centre of Cardiff that people could visit for two weeks in August 2017 (see Conservation Team Report 2017-2018 for details).

To build on our previous work, in 2018 we started a social media campaign, the #MyWildGardenYear. The campaign aimed to further encourage wildlife friendly gardening in urban areas, especially Cardiff, to increase biodiversity and habitats for wildlife in the city. Each month, through the campaign, we challenged people to add a new habitat or 'creature feature' to the garden, based on the advice given in our month-by-month wildlife gardening pack.

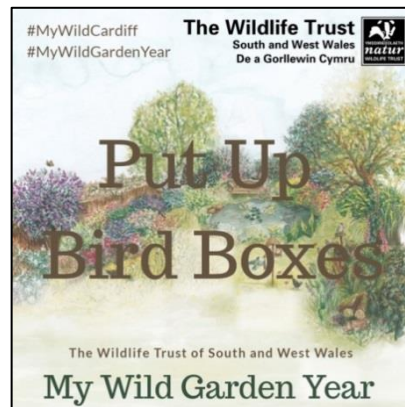
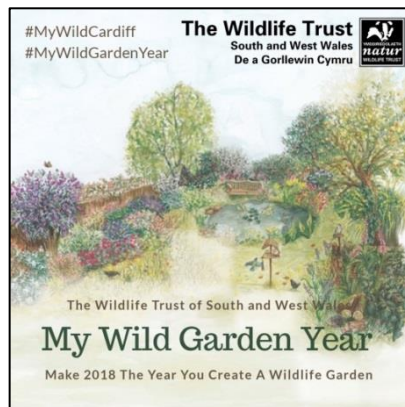


Starting on New Year's Day 2018 the first post was a call for people to join in each month, and announced the first challenge: put up bird boxes ready for spring. The campaign could be followed across the Trust's social media channels, including Twitter, Facebook, Instagram and also our website (welshwildlife.org). The challenges were

seasonal and aimed to create areas for a variety of wildlife. In June the challenge was to create a 'Nectar Café' for pollinators, while October's challenge was to build a hedgehog home (see the table below for the full list of challenges).

January	Build a Bird Box
February	Make a Bumblebee Nest
March	Create a Compost Heap
April	Make a Deadwood Garden
May	Build a Bingham Palace
June	Plant a Nectar Café
July	Make a Home for Newts
August	Put up a Bat Box
September	Create a Reptile Hibernation Site
October	Build a Hedgehog House
November	Dig a Wildlife Pond
December	Plant a Hedge

The campaign was successful, with Facebook posts regularly reaching over 1000 people per month. On Facebook, a total of 16,323 people were reached throughout the year, and a total of 3,770 people engaged with the posts collectively. On Twitter there were over 32,205 impressions (accounts reached), 136 likes and 70 retweets throughout the year.



Supported by players of



For the next step of the project we will be holding four seasonal pop-up stands, in four different local parks in Cardiff. The stands will be showcasing some of the simple but effective features (from the guide and social media campaign) to add to gardens to make them wildlife-friendly. Our aim is that visitors will be able to create some of these features (e.g. bug hotels) at the stand to take home and put in their garden straight away.

My Wild Cardiff is funded through the generous support of players of People's Postcode Lottery.

*Megan Howells
People and Wildlife Officer*

6. Media and public awareness

All members of the Conservation Team are involved in media work to varying degrees during the year, working in partnership with other staff teams to deliver our message.

6.1 Media work

Summary figures indicate that in total the Conservation Team delivered 12 TV interviews this year, as well as 8 radio interviews. An estimated 387 printed newspaper or magazine articles were recorded as featuring the team's work. The teams based on the Pembrokeshire Islands and CBWMC continue to deliver the bulk of media work undertaken by the team.

This area is reported more fully by the marketing and communications department, who have much better data regarding media reach. It is an important part of the Conservation Team's remit for wider engagement.

Media Training

As part of the Local to Landscape Links Project I took the opportunity to go on a Media training day last year. I went with Becks our previous Communications and Fundraising Officer, who helped facilitate. This was held at Shropshire Wildlife Trust for any Wildlife Trust staff. The aim was to give us the tools to confidently learn a few extra details on a topic and deliver an interview at fairly short notice. The course was split into 3 sections.

First was a live Radio interview, down-the-line studio. There was a choice between talking about a seasonal species for Nature Notes or our annual 30 Days Wild campaign. I chose Nature Notes. This is usually a straight, short interview about a seasonal species and is a chance to inspire, enthuse and educate listeners. I chose to talk about hedgehogs and the dangers of bonfire night, how to provide alternative hibernation sites and how to encourage them into the garden using hedgehog highways.

Second was a TV interview for BBC Countryfile. For this we had to pick a story that we would like to talk about, set on location, e.g. nature reserve, which we would practice as an interview for BBC Countryfile. We were asked to think of a topic where the presenter could take part. For this exercise I picked a Great crested newt survey, where we 'looked' for newts in a pond 'using torching method'; and spoke about the why they are protected.

Third was a TV interview for a News programme. This could have been a conservation-based story 'saving a wild place/species from a threat'; maybe nature and wellbeing, or a campaign against a development threat, e.g. roads, motorways. I chose to talk about the Local to Landscape Links project I had just started in the role of Volunteer Co-ordinator and Trainer. This proved to be slightly tricky, as having only just started I didn't have the answers to all the questions. But helped me to develop the project more fully afterwards. Now, coming to the close of the project (at least until further funding becomes available), I am very confident I would be able to give a glowing report!

Aside from gaining confidence and some nifty notes and tips to take away; a key message was to trust that the interviewers chosen by our media staff will not be trying to 'trip us up' and are there to support the message we are doing our best to share!

Tara Daniels
Conservation Officer & Volunteer Co-ordinator

Publicity machine of Wild Communities Project

The Wild Communities Project had quite a healthy budget for publicity that enabled this project to do more than normal for a Wildlife Trust. Primarily this was because this project was to engage as many people as possible with the natural world around them thereby learning new employable skills, improve health and well-being as well as learn about what lived close by. It also helped that one of the trainees employed through the project was a whiz at social media.

Event Calendars and Posters

Each quarter a professionally published list of events was published. This was mostly done as an A4 sheet and distributed in places where people could pick up information such as the library, hospital reception, job centre, etc. At the beginning and the end of the project the calendar was produced in a booklet format giving it more impact. It had a paragraph for each of the events run by the project giving details of where to meet, who it was suitable for and what they would see or be able to do. It also gave information about other opportunities within the project and how to contact us. Full advantage of the opportunity was taken to list those events run by the Brecon staff as well because there was no additional cost. These were separated by the titles being in different colours.

Every event had a poster designed. These had a consistent format so that they could be recognised as being from Wild Communities Project but the picture and the colour of the header and footer strips changed to highlight that the events were different. These were distributed in high footfall places like those above but also in a few shops in the high street, doctors surgeries, sports centre, the Welfare Hall and community centres or projects. PDF and jpeg copies were also sent by email to partner organisations such as MIND, Kaleidoscope and PAVO so that they could be publicised through their contacts.

Facebook, Twitter.

Facebook was probably the main social media channel employed. All events were listed in detail well in advance. Reminders were posted a few days ahead of the event and then a follow up post in which we showed lots of people enjoying themselves and learning. They would also include pictures of species found (especially if they were rare or new to the county) or things made at the event (generally family/children's event). Regular tweets posted, particularly when something great had happened or had been found. Twitter was also used to publicise events that were possibly going to be poorly attended. Most events we asked people to contact us to reserve a place in advance so we generally knew how many were likely to come.

All of these media were extensively used when we were publicising Chris Packham's visit to our Cae Lynden Nature Reserve as part of his national Bioblitz.

Community magazines and press releases

Several articles were written for the Community Mag which covers Ystradgynlais and surrounding areas. One example was a follow up to a survey of very rare Sorbus and hawkweed species. These hadn't been surveyed for ten years so we 'bigged up' that they were still there and that we found one species of hawkweed that hadn't been seen there for

50 years.

Press releases were reserved for the really big stories. Brecon and Radnor Express featured several articles written for them including a follow up article for Chris Packham's Bioblitz and the end of the project party. This was followed up by Joyce Watson, AM who wrote about the achievements of the project in her column (She had been involved at the launch). Sarah wrote a piece for Natural World magazine in 2017 showcasing Allt Rhongyr as a picnic spot. Another that was featured in The Times newspaper Weekened edition in 2017, showcasing Allt Rhongyr and the Bilberry Bumblebee.

Blogs and Newsletters

Our second trainee, Sarah, used Canva to create, design and write volunteer newsletters giving updates on the work that had been achieved and information about various things. She also included recipes to use the allotment produce or something foraged as well as other snippets of information they might find interesting. In the second year of the project, whilst the original Brecknock Wildlife Trust website was running, Sarah created a blog section and populated it with monthly blogs detailing events and sessions the project had run. This functioned both as a public education method (containing lots of wildlife information) and a publicity tool, showcasing our project within the wider context of the Trust.)

The Bioblitz!

Promoting the Bioblitz was very intense in the run up to the event and afterwards. Sarah was reappointed as media officer after her term had ended and she had completed another placement with the Brecon Beacons National Park. She not only promoted the event through our usual media channels she was also responding to Facebook and Twitter posts from the organisers as well as Chris Packham and Iolo Williams. To make sure that we had plenty of recorders she invited universities, special interest groups and county recorders to be represented. This was made harder by the fact that many who would normally have helped had already committed to other stages of the Bioblitz tour and took many emails. However she got a good response and 280 species were recorded on the day, including some rare moths. Several newspapers were contacted to cover the actual event but only one responded to send a photographer. Sarah wrote the article herself afterwards. However she used the main content to go to the Community Mag as well.

Conclusions

All these methods raised the profile of Brecknock Wildlife Trust (as we were then) and kept the presence of the Wild Communities Project in peoples' minds. In terms of engagement and achieving the project aims, the calendars, posters and Facebook attracted the most people to events. It did take significant time to drop off the posters but we found ways to cut that significantly. The Hospital had internal post to all the doctor's surgeries, for example. Some were dropped on the way to/from home or picking up



volunteers. Now a volunteer that works in the library has offered to distribute them in the town centre. The posters also encouraged some people to volunteer. This method was key to connecting volunteers to our wildlife gardening projects at the hospital and the library, but also brought some people to the allotment. In general though, most of our volunteers were referred to us by our partner agencies. Emailing pdf and jpegs out to people was very cost effective. They can print out, email or Facebook it as appropriate.

Newspapers are generally hard to get to attend an event. I don't think we ever got an actual journalist out but we did get the photographer out a few times! Most often we wrote the articles ourselves and sent a photo or two. Even then they would only print it if they had space and it would be edited right down. I would recommend cultivating a contact within the paper. They are more likely to take notice and publish an article. The Community Mag was similar but this was a good way to advertise a larger event for free or just keep our profile up. Pauline is about to take over a 'Wild News' spot in the Beacon's Local which has been written by our volunteers for many years, most recently by the Botany VC42 County Recorder, John Crellin.

Blogs are free, if you have time or someone with the will, and draw people into the narrative of the project. How often you blog will be down to capacity and intensity of a project. Wild Communities ones were monthly, however I recently spoke to someone at the Brecon Local Group who avidly read the nightly blogs from Skokholm.

When considering funding for a project that relies on engaging people in a specific area, it would be worth considering professional printing costs for event programmes to distribute in public places where your target audience are likely to go. It worked here because the project was focused on one town and a limited area around it (Ystradgynlais and the Upper Tawe Valley). Getting the word out needs to be weighed against the time it takes to distribute them and the returns you get.



*Pauline Hill
People & Wildlife Officer*

6.2 Public Engagement

Face to face public engagement is a key part of everyone's roles within the Conservation Team and we deliver a great many walks, talks and other group events, often in the evenings and during weekends and holidays when the greatest number of interested people are available.

During the last year, members of the conservation team delivered 61 talks (up on 45 the previous year), reaching an estimated total audience of 1467 individuals.

Staff also ran a very large number of public walks and rambles. A total of 147 walks were recorded, led by staff, with an estimated total of 1518 attendees, again higher than the previous year. These two increases will reflect the inclusion of activity in Brecknock for the first time. The majority of these events occurred on our nature reserves. A total of 48 training days were also run or organised by Conservation Team staff, training up 109 individuals. A

massive additional 104 marine events were run by our Living Seas team, reflecting the first year of the new National Lottery Heritage Fund project

Conservation Team staff recorded an additional 91 staff-led community events that they had organised (reaching 1568 people). A further 42 events were attended by staff, i.e. events that were organised by partners. Events held in partnership can include, for example, attendance at large national shows such as the RHS show in Cardiff and the British Birdwatching Fair (Rutland), the latter reaching over 20,000 people and engaging a critical audience for our Pembrokeshire islands. County shows and small local events are also an important component of our engagement work. Although interactions at these events can be hard to measure, we estimate that they led to meaningful interactions with 5230 people.

The Unknown Wales conference in Cardiff, in partnership with the National Museum of Wales, is now a fixture in the calendar each year and one of our flagship events.

Unknown Wales Conference, Cardiff

Unknown Wales is a day of talks showcasing a variety of 'unknown' Welsh wildlife and conservation projects in Wales, that don't always get the recognition they deserve. The event is organised by the Trust and the National Museum of Wales, held each year at the museum in Cardiff. On Saturday 27th October 2018, the eighth annual Unknown Wales took place, with 220 people attending. Over 40% of this audience had attended Unknown Wales three or more times.

The day started with talks related to the work of the Welsh Wildlife Trusts. Firstly, Matt Wood



told us why it was a necessity to monitor seabirds, particularly Manx shearwaters and storm petrels, on the WTSWW managed islands, Skomer and Skokholm. Alicia Leow-Dyke, the Welsh Beaver Project Officer from Radnorshire Wildlife Trust, talked about the case for beaver reintroduction, once a vital part of the ecosystem in Wales but hunted to extinction. After a short break, Tom Cotterell, a senior curator at the museum, introduced us to a working quarry in Powys that has produced an enthralling

assortment of minerals. Then the Gwent Levels Living Landscape Manager at Gwent Wildlife Trust, Gemma Bodé, gave a presentation on the exceptional ecology of the Gwent Levels, an area previously threatened by the proposed M4 relief road.

After lunch, Ian Hughes (Freshwater Habitats Trust) told us of Wales' rarest freshwater snail, the glutinous snail. We learned that the snail is only located at one site in Britain, Lake Bala, and we heard about Ian's efforts to save the species from extinction. Oliver Brown then presented his recent success using artificial culture to restock and boost wild populations of white-clawed crayfish. Finally, the day ended with Richard Crompton talking about the

challenges that arose when they set out to study Wales' rarest bat, Nathusius' pipistrelle, in Cardiff.



Thanks to all the speakers for a brilliant day of engaging presentations, and to everyone who has supported Unknown Wales each year. The programme for the ninth Unknown Wales has been released, taking place on Saturday 26th October. We are currently making plans for the 10 year anniversary in 2020.

*Megan Howells
People and Wildlife Officer*

Community Gardening as a method of engagement – pros & cons

The Wild Communities Project was involved in two community garden projects in the second 18 months of the projects duration.

In June 2017 the project was approached by PAVO Community Connector, Sally Richards, who was based at Ystradgynlais Hospital. She and some of the occupational therapy team were keen to restore an area at the back of the hospital which had previously been the site of a garden project. Due to financial and time restraints it had been abandoned several years previously. Their suggestion was that hospital staff, perhaps some patients (day hospital and mental health unit) and local people would join Wild Communities Project to improve the area for people and wildlife. The site consisted of a wooded area, large grassy



area and a mountain of unkempt dogwood. There were also several raised beds, a polytunnel, a greenhouse with many broken panes and an overgrown pond. Work started late summer with a few of our regular volunteers, some staff and locals living next door to the hospital tackling the woodland path and the dogwood mountain. A Halloween work party saw over 20 people including the Senior Nurse cut and chip two thirds of the dogwood. By the end of the winter the rest of the dogwood had gone, there was a clear path through the wood and the pond had the irises reduced, it was now possible to encourage less physically able people to get involved.

In July 2017 we were approached by one of the librarians that had done a course on constructing raised beds with Wild Communities Project. She had gained permission to

improve the garden at the back of the library for wildlife and sought our advice and help. Again the garden was dominated by dogwood along with Carex pendula. This time we were reducing the amount of dogwood leaving for summer and winter colour. It helped that there were variegated with red stems and green varieties. At the back we created a shady garden with native woodland species, planted by the Ystradgynlais AFC Junior girl's team and included some standing moss covered logs. Making the elements for the bug hotel was enjoyed by all abilities and this was supplemented by a Belfast sink pond in front and buddleia bushes to the side. A pollinator garden can be seen through the fire escape door and a small wild flower meadow towards the street. The project contributed to Ystradgynlais Town win silver gilt 3rd in last year's Wales in Bloom contest in 2018.

These community gardening sessions, particularly at the library, enabled engagement with people who would have found other activities, such as conservation work on our reserves too physically hard and/or too daunting. These sessions were very informal but we took time to explain the wildlife value of what we were doing and teach how to use tools safely.

Pro's for participants

- provided a bridge to engage with natural environment for those that wouldn't normally. They were outside in the fresh air, growing plants and observing the natural cycle of life;
- flexibility was particularly beneficial to those with various issues or those who found it difficult to focus for long periods. They were able to engage at the level they felt comfortable, physically or mentally. Some often just came for a cup of tea.
- It was an important social activity. Through working with other people, often people they would not normally talk to, they were able to develop their social skills. A regular visitor to the library never engaged with the staff until he became involved with the Library garden. He became much more confident and reported back to the staff whenever he had done something else with Wild Communities;
- improved participants physical health in some cases just getting out of their home and coming down encouraged them to move more ;
- improved participants mental health and well-being. Being part of a group improves connections and a sense of belonging;
- enabled participants feel that they were doing something for their community;

Pro's for the project and the Trust are that it enabled us

- to engage with different partners and network further. Wild Communities Project linked up with far more community partners through these projects than with any other work;
- be seen and appreciated by the wider community raised the public profile of the Wild Communities Project and Brecknock Wildlife Trust as a whole;

Cons

- difficulties marrying expectations with volunteer capacity and weather limitations could be an issue, although both these projects were just happy that we were doing something;
- conflict of interest when other groups get involved For example Bloddau community group plant various spots around Ystradgynlais and planted up the border at the front of the Library. As formal gardeners they wanted things to be 'tidier' at the back and

didn't recognise the wildlife value, or the contribution that this made to their success in Wales in Bloom 2018 (in the judges comment);

- Sometimes difficult to find simpler tasks or those less physically able or to get on with the harder tasks when not many turn up and these people need help and direction;
- Need a longer time to reap the full rewards. These projects were only just beginning to achieve their aims and would have benefitted from another year to really show what we were aiming for. The first year was only laying the groundwork;



*Pauline Hill
Wild Communities Project Officer*

People engagement event on Skomer – Skomer's Hidden Secrets

This has become an increasingly popular event on Skomer and is now fixed as one of the island's mainstays. Originally devised to increase overnight guest numbers during this traditionally quieter time of the season, it is an event suitable for all ages and interests.

The 2018 event was held a little earlier in August than in previous years and was fully booked with a maximum of 16 beds available in the accommodation. Early August is the tail end of the puffin season but the event is specifically designed to focus on other Skomer species and allow a 'behind the scenes' access to some of the wildlife and monitoring surveys on the island.



This slightly earlier date enabled us to include Skomer vole surveys, led by Dr Tim Healing, to the list of activities.

List of Activities

- Rock Pooling/coastal shore survey on North Haven beach
- Skomer vole survey
- Seal haul out counts on the Garland Stone
- Reptile walk
- Manx shearwater chick weighing
- Manx shearwater night time guided walk
- Moth trapping



The thrill of all participants was evident as people were able to see wildlife close up and in some cases, in the hand. Helping researchers weigh Manx shearwater chicks and holding a Skomer vole were clear highlights. Encounters such as these are ideally suited to help engagement with nature. There is a real educational aspect to each activity too, participants learn more about the conservation status of these species and our role in their management. This is also an opportunity for our long term volunteers who are encouraged to lead many of the activities and thus increase their experience in visitor engagement work.

It is a shame in a way that only 16 people are able to take part in this unique event. However, social media has meant that we can send the story out to many more. Many visitors to the island who have enjoyed reading the blog enquire about the event and as a consequence are already engaged.

*Sarah Parmor
Skomer Visitor Officer*

Flowers of the South Gower Coast (Glamorgan)

One of the joys of the job as a Conservation Team member are the places we work and as SWTO for Swansea & Neath Port Talbot I have the pleasure of being responsible for the management of one of the jewels in the crown of WTSWWs suite of nature reserves – the SAC/SSSI designated South Gower Coast.

It is one of those places where it is easy to only see the big picture, the rugged views along the cliffs towards worms head, the waves crashing on the rocky shore and the views across the Bristol Channel to the cliffs of north Devon and Lundy island, maybe spotting diving gannets and passing porpoise while you're looking. It's too easy to be distracted from the things directly beneath your feet.

The reserves of Port Eynon Point, Overton Mere & Cliff, Long Hole Cliff and Deborah's Hole are all designated for the special floristic diversity found on the limestone cliffs. Stand in one place and look at your feet and you may see a dozen or more special & beautiful plants all within a really small radius.



For this reason the Flowers of the South Gower Coast is one of my favourite walks to lead in late spring and we try to run it annually. In 2018 we offered to deliver a walk exclusively for members of WTSWW's Swansea Local group and 15 members turned up on a beautiful early June evening. I had drafted in the support, knowledge and sharp eyes of Conservation Manager, Lizzie Wilberforce (who I think enjoys delivering the walk as much as any participant enjoys being part of it)!

Over the years I have learnt how to prepare for the walk, we now know the best places for the best assemblages of plants, I have also learnt that it will never be a long walk. We struggle to cover 2km in 3 hours with the distraction of the flowers (and sometimes grasses!) and everybody's desire to find out more about what they are seeing at ground level and the inevitable questions about our management work. This year I was keen for the local group to get beyond Port Eynon Point to see the habitat management the staff and volunteer team had carried out at Overton Mere during the winter of 2017-18 prior to introducing ponies and cattle to graze the reserve.

The WTSWW Swansea Local Group is lead by a committee of volunteers who organise a

series of summer walks and winter talks to support the public engagement work of The Wildlife Trust of South & West Wales.

*Paul Thornton
Wildlife Trust Officer (Swansea, Neath and Port Talbot)*

6.3 Wildlife queries

Responding to queries about wildlife from WTSWW members and members of the public is an important area of work, facilitating others to become more interested and to do their bit for wildlife. Although difficult to record accurately, we believe members of the Conservation Team responded to around three hundred such queries over the year, although inevitably these data are poorly captured as many are simply phone enquiries and not recorded – consequently this is probably a significant under estimate. We also engaged with other landowners seeking advice; we estimate that we advised on the management 15,278 ha of land in third party ownership during the year, including visiting 23 in person (totalling around 278 ha land).

7. Consultancy and contracts

7.1 Consultancy

A number of members of the Conservation Team also operate an ecological consultancy for WTSWW. This work holds its own budget and is not reported in detail here. However, the consultancy work is delivered by core staff and returns significant income which is re-invested in our conservation work. Through the consultancy we also operate the seasonal programme of professional training days based at Parc Slip which delivers against our charitable objectives as well as raising income for WTSWW.

Witford Point Compensation Area contract

As mentioned in last year's Conservation Team Report WTSWW were awarded a one-year contract in 2017 to warden the Witford Point Dune Compensation Area near Baglan, Neath Port Talbot. It is a contract that is renewed on an annual basis via a competitive tender and we were again awarded it in 2019. The site is owned by St. Modwen Development Limited and is a ca. 50ha area comprised predominantly of sand dunes and salt marsh on the eastern side of the mouth of the River Neath. The work planned for Witford Dunes is part of the Section 106 agreement which resulted from the loss of an area of sand dunes during the construction of the new Swansea University campus.

Last year's article discussed some of the key species and habitats present as well as the range of tasks that various members of the Conservation Team are undertaking. The majority of these are continuing; including INNS control, litter-picks and monitoring of the bike use.

Since last year's report, we have had specialist botanical surveys carried out by Barry Stewart who identified a number of important species that could benefit from targeted

management. One of his recommendations was to try sowing seeds of sea stock (*Matthiola sinuata*), the Section 7 priority species which is a feature of the dunes, in order to increase the species' distribution to the west of the site. Previous monitoring had established that the plants were almost exclusively confined to the east of the site and with prevailing winds hindering the natural spread of their seed westwards Barry suggested attempting to sow seeds by hand. This was undertaken in October of 2018 with seeds collected from a number of individual plants on site and then 9 receptor sites were chosen based on the suitability of aspect and substrate and seeds. These were then surveyed in July 2019 with the very pleasing result of 6 of those sites having young sea stock seedlings (see photo, below left) present (at least 46 new individual plants) which can hopefully establish and provide some natural seed dispersal in future years. Monitoring of these plants and possibly additional manual sowing will continue this year.



Barry also identified an acrocarpous moss, *Distichium inclinatum* (see picture above), as a key feature of the site. The crucial area for the species is an open habitat of old scalplings and slag which is readily overgrown by pleurocarpous mosses. This is to the detriment of the pioneer species such as *D.inclinatum*. On Barry's advice we created a number of 2m x 2m disturbance plots in order to monitor whether *D.inclinatum* colonises these and spreads. At the time of writing this monitoring has yet to take place but is scheduled for later in the summer.

Habitat management work has concentrated on an area of young woodland and scrub that is encroaching on yet another important species; *Carex punctata* is a sedge which has a restricted range in the UK, being confined to south and west coasts. This scrub management will hopefully prevent the population of *C.punctata* from being shaded out and allow it to spread and increase in number. Monitoring and further habitat management will continue in coming years if we are again awarded the contract.

As a result of the continuing patrols and surveys that have been undertaken since starting work at Witford Point in April 2017 we have now recorded 13 mammal species (an increase of 3 since last year's report including a weasel), 2 amphibians (toad was new for 2018/19), 1 reptile species, 58 bird species (an increase of 13, including swifts and bar-tailed godwits), 357 invertebrate species (an increase of 190) and 413 plant species.



Vaughn Matthews
Conservation Officer

7.2 Contracting

The Conservation Team regularly carries out contracting work to bring in an income to support the work on WTSWW reserves. Using the skills within the team along with our tools and equipment by delivering appropriate contracts we can have a beneficial impact on the wider environment. These vary from footpath maintenance in Glamorgan to mitigation and compensation work funded through the planning process, and positive conservation initiatives contracted by partner organisations or sympathetic landowners. The team delivers a variety of such work across the entire WTSWW area.

8. Education

Education work undertaken by the Conservation Team occurs largely through our input to events and training, and school visits to our flagship nature reserves. The greatest part was delivered through our partnership with Dow Silicones Ltd., who fund our Education Officer, Catherine Lewis.

During the year, we estimate that WTSWW conservation staff engaged with a total of 3 nursery groups, 30 primary schools, 4 secondary schools, and 8 colleges or universities, with many being repeat engagements. We undertook outreach visits with 25 individual schools, engaging 1315 students in those visits. In addition there were an estimated 70 further visits by schools to WTSWW nature reserves, bringing 2567 students to experience nature on our sites.

Delivering Wildlife WATCH group activity is also a core part of the Wildlife Trusts' work, with an estimated 190 children attending WATCH events during the year (many for repeat visits).

We are fortunate to benefit from some the skills of some dedicated staff who specialise in education and working with young people, but a great deal of educational engagement is done by staff across the breadth of the Conservation Team.



Education and engagement at the Welsh Wildlife Centre, Cilgerran

Here at the Welsh Wildlife Centre we have had a busy year providing many events to get visitors engaged with nature.

School visits have been popular, linking curriculum objectives with outdoor experiences. Learning is done through fun, engaging events such as pond dipping, mini-beast hunts, guided walks and other nature themed, hands on activities.

During school holidays the Welsh Wildlife Centre was extremely busy with both holiday makers and local visitors. Family friendly events including shelter building, pond dipping, nature art and mini-beast safaris proved very popular and gave children and adults the opportunity to experience the natural world and learn about the fascinating wildlife that we

have here.

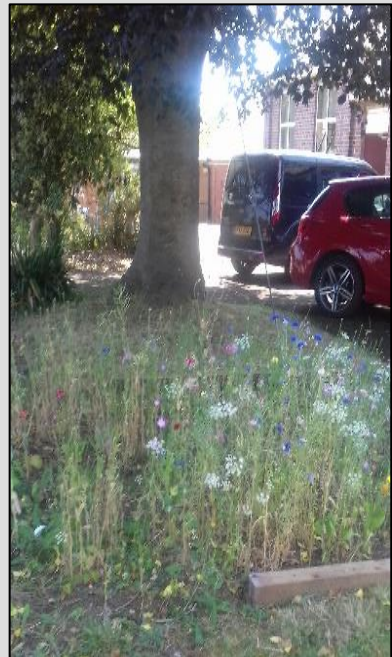


The monthly Wildlife Watch Group has attracted new members, doubling in size since last year and is a fantastic way to encourage the conservationists of the future to develop their interests and passion for the natural world. Activities have included barn owl pellet dissection, bird house and feeder making, reptile surveys and bird watching amongst others.

*Gretchen Taylor
People & Wildlife Officer*

Polli:Nation Project

As part of the Sully Primary Polli:Nation 3-year project (grant via OPAL) the Friends of Cadoxton Ponds (Dow Retirees) visited to dig a patch for the schools mini meadow project. The volunteers worked hard clearing an area ready for seed sowing.



Later that month we had a planting day with the children, they had great fun;

- Planting bulb flowers around the tree for flowers in the spring.
- Planting climbers along the school fence line.
- Sowing and protecting their wildflower seeds in the designated mini meadow area.

The mini meadow seeds germinated throughout the summer, and with the children's maintenance plan, will flourish each year, creating a more wildlife friendly area in their school grounds.

Learning through Landscapes (Polli:Nation)

Polli:Nation is a Heritage Lottery funded biodiversity and education project.



*Catherine Lewis
Education Officer*

Education Activities at Cardigan Bay Marine Wildlife Centre

One of our core activities at CBMWC is raising public awareness of the marine environment and wildlife. We do this in a variety of ways, from engaging with visitors in our Visitor Centre and during our cetacean and seal surveys, to leading a series of educational activities, and delivering talks. During 2018/19 we delivered 106 events, activities and talks, which resulted in engagement with 2089 people. We hosted three primary school visits (a total of 128 children) and delivered talks and activities at 4 primary schools (210 children). We also visited two local comprehensive schools and spoke with 350 students about volunteering opportunities, and marine litter issues. Marine awareness sessions were also organised for a range of other groups, from students to local cubs and scouts, as well as groups which focussed on health and wellbeing.

In April 2019 we re-launched our monthly Wildlife Watch group. During the school holidays we ran family-friendly activities, including Dolphin Detective and Seashore Safari. As in previous years, Seashore Safari and Mini Marine Biologist – based around survey and identification of rockpool and strandline wildlife - proved the most popular. Funding for a programme of Mini Marine biologist sessions came from SeaChangers, and the sessions were delivered through Spring and Summer 2018.

Activities for older children and adults included our monthly wildlife walks along the coast path, and sessions which contributed to global citizen science projects including the Big Microplastics Survey and Great Nurdle Hunt.

In July 2018 we welcomed Chris Packham and Iolo Williams as part of Chris's UK Bioblitz. A range of public events were organised, from 'fin and fluke' sessions to moth trapping to coastal bee walks, and resulted in a significant increase in visitors.



Thanks to our funders

Dulux Decorator centre: sponsorship of our beach cleans and litter awareness sessions
 WCVA Volunteering in Wales fund (staff time for recruiting and supporting 14-25 year old volunteers). Seachangers – equipment for Mini Marine Biologist sessions

*Aline Denton
 Cardigan Bay Marine Wildlife Centre*

Local to Landscape Links project : Education and Training component

Our Local to Landscapes Links project is funded by the players of People's Postcode Lottery and Natural Resources Wales, with the aims of Community outreach, Creation of new certified training, Improving access to public greenspaces, New habitats and species projects and ID of sites in the wider landscape.

As part of the certified training, we are pleased to offer free training on habitat management in conservation with the aim of bridging the gap between being a volunteer and becoming more employable within the conservation sector. Trainees have already had some of the basics in experience and knowledge and are serious about progressing to get a job in this field.

The training provides the opportunity to delve deeper and gain invaluable practical experience! Covering a variety of different habitats including woodland, grassland, upland, and wetland; activities include ID, survey and practical skills. This higher level secondary module includes Tool maintenance, Leading work parties, H&S, Report writing, Management plan writing, CV/application writing and Interview practice to increase employability. The training helps keep a record of experience gained and awards a certificate of attendance.



43 trainees have been engaged with a further 68 having registered interest and may yet join us before the project finishes in December. Several trainees have had interviews or job offers which the project and all the work WTSWW has done with volunteers has helped them

achieve. Although the project is coming to a close, as a pilot project, there may be opportunities for future funding to extend the life and scope of the project.

Tara Daniels
Volunteer Coordinator

9 . Plans for 2019-20

The 2018-19 year has been a year of change for the Conservation Team as we embraced a whole new geographical area with the incorporation of Brecknock into our patch, and welcomed their conservation staff to our team.

We are still operating in a period of ongoing uncertainty, with Brexit still on the horizon and ongoing impacts of austerity and associated changes in the grant funds available. The application and reporting processes that are expected of us also continue to change, with many funding streams focusing heavily on large, complex partnership projects. Such projects can be incredibly successful but are also costly (and sometimes risky) to develop and lead. It's something our team have a wealth of experience in doing, but there is little doubt that finding sufficient funding to support our aspirations in the coming year will be a challenge.

The Trust's entry into the Glastir scheme at the beginning of 2019 will also be a big challenge for the coming five years. The income it brings will be invaluable against a backdrop of diminishing grants, but the scheme requires us to work in quite a different way and support a very specific reporting and management system for our land-based activities. It will also require careful planning to ensure there is no conflict or risk of breaching the quite detailed scheme rules with our other activities – being so different from the majority of farming applicants to the scheme, we throw up new complexities every day!

The emergence of Ash Dieback around 2012 in the UK will also start to impact our nature reserves and staff work severely in the coming year. We are starting to see high mortality already in many of our ash trees, some in very high risk areas (such as over major roads). Managing the complex balance between public safety, supporting public access, preserving as many ash trees as we can, and protecting the wildlife that depends upon them, will be a massive planning and financial strain in the coming years.

Nonetheless we remain excited for what the future holds. We always have new projects on the go, new ideas to develop, and new staff with new perspectives bringing a fresh approach to our team. We look forward to meeting the challenges of 2019-20.



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