

# GWCT Wales Working Conservationists: Farming Community

A network of farmers increasing biodiversity and the natural environment within a profitable farming system



Wales **GWCT** Cymru  
FOLLOW THE SCIENCE  
DILYNWCH Y GWYDDONIAETH



# WELCOME



**SUE EVANS**  
DIRECTOR, GAME & WILDLIFE  
CONSERVATION TRUST  
WALES

---

“  
**If wildlife declines  
are to be reversed  
and carbon targets  
reached, conservation  
measures must be  
on a landscape scale  
and involve local  
communities.**  
”

The GWCT Wales Farming Community has been set up to provide a platform for farmers across the country who are keen to integrate biodiversity restoration and climate change mitigation with profitable farming enterprises. These Working Conservationists are evidence that the farming community wants to increase biodiversity in the farmed environment and understands how to achieve it. They should be heard by those responsible for shaping farming policy in these challenging times.

Our new Farming Community offers a network for farmers to share knowledge and experience and a united voice to send a powerful message to Welsh Government. We want to ensure that the people on the ground are at the heart of a new approach to agri-environment policy, which is adequately funded and fit to deliver urgently needed public goods.

The six case studies featured here demonstrate some of the wide range of innovative approaches to the challenging issues facing Welsh farmers today. GWCT Wales is able to draw on decades of scientific research into practical solutions to conservation challenges and our call to 'follow the science' is exemplified in John Warburton Lee and Trystan Edwards' winter feeding and cover crop trial (see p.8).

If wildlife declines are to be reversed and carbon targets reached, conservation measures must be on a landscape scale and involve local communities. Having developed the Farmer Cluster approach, we've seen what farmers can achieve when they have the right support to help them work together. Gareth Wyn Jones' first-ever plc grazing society is an inspiring model of the power of this kind of collaboration (see p.10).

GWCT Wales has always championed a grass-roots, farmer-led approach rather than top-down "desk-top conservation". Sam Kenyon is a wonderful example with a passion for sustainable farming, which has resulted in the restoration of her soils and cleaner water in the river that runs through the farm (see p.7).

Nature reserves and protective designations will play a part in reversing biodiversity loss and sequestering carbon, but the vast majority of the Welsh countryside is managed by private land managers, like the ones featured here, from small family farms to larger scale businesses. GWCT Wales' Farming Community recognises that their skills and commitment combined with adequate financial support and good advice grounded in science is the essential recipe for success.

We hope you join the Farming Community today, free online at [www.gwct.wales](http://www.gwct.wales).

Best wishes

*Sue*

# CONTENTS

- 5 GWCT WALES FARMING COMMUNITY CHARTER
- 6 PETER LOXDALE
- 7 SAM KENYON
- 8 JOHN WARBURTON LEE & TRYSTAN EDWARDS
- 9 RICHARD & LYN ANTHONY
- 10 GARETH WYN JONES
- 11 DAFYDD WYNNE FINCH & CARWYN DAVIES
- 12 GWCT WALES EVENTS
- 13 GWCT WALES PARTNERSHIP PROJECTS
- 14 ABOUT THE GWCT





# GWCT WALES FARMING COMMUNITY CHARTER

## **Our aims**

- To build economic and environmental resilience by developing ‘sustainable intensification’ of agriculture in line with GWCT’s farmer-led Working Conservation approach.
- To provide a Wales-wide community of farmers with a platform to share information and demonstrate how to increase biodiversity and combat climate change.
- To share GWCT science and provide advice to farmers, helping them to identify knowledge gaps for further research in order to provide practical solutions to challenges.
- To demonstrate to Welsh Government, ministers and civil servants what farmers want to do for the environment and put them at the heart of policymaking.
- To engage with the wider community of farmers, businesses, NGOs, advisors, students and schools to improve understanding of agricultural and environmental issues.

## **Farming Community shared objectives:**

- We want to be part of the solution to mitigate climate change and reverse biodiversity decline within a productive, sustainable farming business system.
- We want to work to increase wildlife on our farms particularly threatened species such as curlew, skylark, lapwing, and yellowhammer.
- We support GWCT’s three-legged-stool approach to conservation of vulnerable farmland birds combining habitat creation, winter feeding and predation management.
- We are happy to show people the work that we are doing on the farm to integrate nature recovery with emissions reductions and food production.
- We recognise the benefits of collaboration and knowledge exchange to deliver nature recovery on a landscape scale.

## **What GWCT Wales can offer farmers:**

- Support knowledge exchange through live and online events and provide an information network through digital channels including website, Apps and email newsletters.
- Seek funding to enable delivery of environmental objectives on individual farms and to support collaborative landscape-scale initiatives such as Farmer Clusters.
- Partner with farmers to adapt and tailor environmental measures to specific sites and farming systems in order to deliver outcome-based conservation.
- Present Welsh Government, Natural Resources Wales and policy influencers with evidence of the best approach for restoring the environment within a profitable farming system.
- Emphasise the need for a profitable farming business to underpin farmers’ ability to combat climate change and increase biodiversity.

You can join the GWCT Wales Farmers’ Community for free online at [www.gwct.wales](http://www.gwct.wales).

## PETER LOXDALE

Peter Loxdale runs Castle Hill Farm near Aberystwyth with his father Patrick. In 2008, the beef and sheep operation was converted to organic and since then, it has moved to an increasingly regenerative approach. As part of this they have installed a muck store with the help of a government grant in order to make better use of their farmyard manure. Previously, it was stored in heaps on the fields but over winter rain had leached a lot of the goodness out and it took a long time to break down. The concrete structure shelters the manure and allows it to be turned every fortnight. This system ensures expensive bedding straw is used more efficiently as it's well composted with the muck and returns organic matter to the soil.

Patrick said, *"Within 12 weeks it has composted enough to be spread on the fields and the muck is absorbed much more rapidly. That must mean it's a good product and that the soil is healthy because worms are coming up and taking it. The quick absorption allows us to use it in a similar fashion to artificial fertiliser by applying little and often between silage cuts."*

Another big change has been towards intensive rotational grazing of diverse swards whereby high densities of stock are moved round more regularly, giving the grass longer recovery periods. This method has seen big increases in yields, which is important for an organic system where artificial fertilizers are not permitted. The rise in forage production has allowed an increase in stocking densities, which should in return see greater revenues. In a typical rotation sheep are moved every two days. Peter said, *"If you gave them six days on one area, they'll have eaten all the best quality grass in the first two and then spend four picking through the rest. By dividing this same area, for example, into three sections they eat better quality grass more regularly and don't churn it up by walking from one end to another. On the second day they have to pick through the rest and then they're moved on. We also switched to deferred grazing rather than forage crops in winter which has reduced costs and means the sheep come in the shed cleaner before lambing."*

Peter has easy-to-put-out modern fencing systems, which enable him to set up a 220m fence line in five minutes and Kiwitech drag troughs fed by well systems and a solar pump, so he can move water to the sheep rather than the other way round. He said: *"Where we want to take this farm in the future is driven by improving soil and environment because by doing that we also improve the farm's self-sufficiency and profitability, which is increasingly important with reduction in subsidies and schemes and global factors beyond our control."*



**CONSERVATION FOCUS:** soil health and fertility

**LOCATION:** Castle Hill Farm, near Aberystwyth

**FARM TYPE:** 800 breeding ewes producing 1,350 lambs and 220 cattle including 80 suckler cows

**ACREAGE:** 700

**TYPES OF GROUND:** Favourable flat grazing and silage pasture and relatively productive upland pasture

**CONSERVATION MEASURES:** intensive/adaptive rotational grazing, adaptive water systems, manure management, areas of low density grazing and mosaic topping of rushes to encourage waders.



Where we want to take this farm in the future is driven by improving soil and environment





## SAM KENYON

Sam Kenyon has been farming regeneratively on her and her husband's farm in North Wales since 2020. Focussing on soil health, she has introduced herbals lays at Glanllyn Farm, St Asaph, Denbighshire as a natural way of fixing nitrogen in the soil, avoiding chemical fertilizer and improving the health of her small flock of 90 Welsh mule ewes. She said, *"The herbal ley is amazing stuff. At first the sheep didn't touch the chicory but by the end of summer they really tucked into it, and I've only just had to dose a few for worms for the first time in a year. Some people look on a spreadsheet to check everything's alright, I look at the sheeps' muck to check on livestock health and for the insects that depend on them. If you over worm your animals, you will kill a lot of important invertebrates that live in the muck and soil, too."*

In addition to the herbal leys, natural fertilizer is spread by chickens whose coups are moved each day, ensuring their droppings are spread across the field. Weed control comes in the form of Sam's beloved herd of dual breed goats, which can rid a field of thistle flowers, so stopping them from seeding. She said, *"We know that everything that lives in the soil food web is benefitting from no synthetic fertilizers or pesticides and seeing the leys full of pollinators in summer is really rewarding, you feel like you're doing something right, which is good for mental health, too."*

Mitigating the loss of soil into the river Elwy, which runs through the farm has met with equal success. A buffer margin has been fenced off along the watercourse, where previously the fields were ploughed up to the edge of the river causing the earth banks to collapse during flash floods. To further strengthen the edge, it has been scraped back at a 30% angle with coppiced willow trees buried within the bank. The willow sprouts from the trunk and eventually roots will hold the soil from slipping into the river. Sam said, *"It's worked amazingly, it's almost like nature's trying to solve its own problems and conventional farming is trying to stop that. When we fenced off the river and allowed natural regen on the other side of the fence a great variety of plants that were dormant in the soil came back."*

Sam sells her pasture-fed lamb and goat direct to local customers through a meat box scheme, so cutting the carbon footprint of distribution. Looking ahead, she hopes to restore a dilapidated farm building to serve as a classroom to host children visiting the farm to connect with the natural world and learn about regenerative farming. She said, *"You can waste a lot of money trying to fight nature, to my mind it's better to work with her."*



You can waste a lot of money trying to fight nature, to my mind it's better to work with her



**CONSERVATION FOCUS:** Soil health and water quality

**LOCATION:** Glanllyn Farm, St Asaph, Denbighshire

**FARM TYPE:** sheep, goats, vegetables

**SIZE OF FLOCK:** 90

**ACREAGE:** 160

**TYPES OF GROUND:** woodland on steep limestone rocks, permanent pasture on loamy soils (grade 3b)

**CONSERVATION MEASURES:** herbal lays, synthetic input reduction, buffer margins, silvopasture, hedge planting

# JOHN WARBURTON LEE & TRYSTAN EDWARDS

John Warburton-Lee describes Gilar, his 500-acre farm in North West Wales, as “having every agricultural god stacked against us. In winter it blows holy hell up here!” The rugged ground is north-facing and ranges from 900ft to 1,700ft, but in spite of the harsh conditions, he is determined to show that it is possible to reverse the decline of songbirds on the farm. Working with GWCT Wales and Kings Seeds, John Warburton Lee and his farming partner Trystan Edwards have committed to a three-year demonstration project funded by the European Innovation Partnership to establish wild bird crop mixes and put out food in the hungry gap. He said: “Additional feeding with the buckets is easy, but the cover crops will be more of a challenge. Like many livestock farms, we are no longer equipped to sow seeds, so will have to pay a contractor.”

So what would John like to see in the new generation of agri-environment schemes post-Brexit? He is convinced that if the government wants to hit its biodiversity targets, it must engage, inspire and incentivise the farming community. He said: “I think there’s a huge need for a change of approach. Farming is tough and many farms operate at little better than subsistence level. Welsh farmers care passionately about their land and the farming way of life. They don’t go out to deliberately denude the landscape and should be valued as partners. New schemes need to be easy to implement and farmers need access to expert guidance. GWCT Wales is one of the few organisations that can provide that and is hugely welcomed.”

The pilot on Gilar, a hill farm in North West Wales, has shown real potential already. This year’s counts show that, in the first year, just one tonne of supplementary feed and six acres of cover crops have resulted in six times the number of farmland birds. John said: “I think it would be great if simple schemes like this enabled farmers to deliver environmental benefit alongside meat production. We have the evidence that it works and will continue to monitor it. I’m hopeful we can demonstrate to both Government and farmers that it’s an incredibly simple and highly effective thing to do. If we had big enough take up, I believe it could go a long way to reversing biodiversity decline in Wales.”



**CONSERVATION FOCUS:** increasing songbirds on an uplands farm

**LOCATION:** Gilar Farm, Pentrefoelas, Conwy, North West Wales

**FARM TYPE:** sheep

**ACREAGE:** 500

**TYPE OF GROUND:** upland, middle ground and lowland pasture with occasional fodder root crops in the low ground, 90 acres of woodland blocks

**CONSERVATION MEASURES:** cover crops, supplementary feeding, woodland management.



New schemes need to be easy to implement and farmers need access to expert guidance.





## RICHARD & LYN ANTHONY

In just 16 years, Richard and Lyn Anthony went from managing a small flock of sheep on 110 acres of rented land to a mix of contract farming and long-term Farm Business Tenancies running 3,000 acres of arable and grass with a flock of 800 ewes. A pioneer of sustainable intensification, in 2013, Richard was elected a fellow of the Royal Agricultural Society of Wales in recognition of his work on soil management, which increased his yields by 25-30% and the earthworm population 10-fold. He continues to develop regenerative systems, favouring natural solutions over chemical inputs, resulting in a farm rich in wildlife including rare yellow wagtails and turtle doves. Lyn said, *“It is amazing to see how the numbers and variety of different bird species, hares and other wildlife have increased over the past few years.”*

Soil structure and fertility have been improved through minimum tillage, cover crops and companion planting of spring beans and berseem clover to fix nitrogen and insecticides haven't been used for three years. Richard said, *“If you look at the way we were growing oilseed rape five years ago, it's mind blowing. This year's OSR crop look as good as we have ever grown previously, but we're growing it in a totally different way. Companion crops like buck wheat, vetches and spring beans, seem to have reduced the flea beetle problem and grass margins with strips of wildflower mixes have restored beneficial insect predators. Recently we've allowed our hedgerows to grow wider and taller, which is making a huge difference in combination with the field margins.”*

The farm's pheasant shoot also benefits songbirds by funding winter feeding, predation management and game crop mixes including sunflowers, spring beans, keeper kale, buckwheat, millet and phacelia. All the other environmental measures are paid for by the business because Richard found the old Glastir agri-environment options too restrictive. In his view, it is vital that schemes are flexible and fit in with the farming operations. He said, *“The project officers assigned to us threw out half of what we wanted to put in. We were going to be disadvantaged and worse off financially, so we decided not to go into the scheme and instead do what we felt was the right thing.”*

Richard and Lyn have invited politicians and policy makers to see their integrated conservation work first hand in the hope that future schemes will be more farming friendly and financially viable. Richard said, *“We're trialling things on the ground to show what works and what doesn't. I'd love to do what we've achieved at Sealands over the whole farm, but if Welsh Government want to roll this out across the country, they will have to pay for it.”* Looking ahead, Richard and Lyn would like to collaborate with other farmers, linking up woodland and other habitat. Richard said, *“I think a lot of our neighbours would be interested, so hopefully any future scheme would have funding for Farmer Cluster facilitation.”*



We've allowed our hedgerows to grow wider and taller, which is making a huge difference



**CONSERVATION FOCUS:** Soil management, fertilizer and pesticide reduction

**LOCATION:** Sealands Farm, St Brides Major, Bridgend, Glamorgan, South Wales

**FARM TYPE:** Arable, sheep

**SIZE OF FLOCK:** 800

**TOTAL ACREAGE:** 3,000 including 650 at Sealands

**TYPE OF GROUND:** lowland loamy soil with subsurface rock

**CONSERVATION MEASURES:** minimum and strip tillage, cover crops, companion planting, hedgerow management, wildflower strips, grass margins, wild bird crops, winter feeding, predation management



## GARETH WYN JONES

In 2006 Gareth Wyn Jones and 22 of his neighbouring sheep farmers in the Carneddau mountains set up the first ever plc grazing society in the UK supported by the Snowdonia National Park, EU and Countryside Council for Wales. The idea was to adjust the number of sheep on the hill with conservation in mind to give upland habitat and wildlife a chance to recover. Keeping flocks off the mountains in the winter has resulted in a huge improvement to the peatland, its biodiversity and the amount of carbon it can absorb. But it's not only overgrazing that has a negative impact, some areas had been under-grazed and become overgrown. Cattle, sheep and Carneddau ponies managed by the farmers play an important role in soil health, regenerating rare plants and increasing insect life which is essential to maintaining bird populations including the rare chough. Gareth, whose farm is in Tyn Llwyfan, near Llanfairfechan, Gynedd said *"I would welcome Welsh Government ministers to visit to see how the habitats have changed for the better and how we manage different areas, deciding there's not enough grazing here or just a few too many sheep there."* As well as habitat improvements the grazing society funds the control of foxes on the mountain which has led to an increase in hares and rare ground nesting birds such as curlew and black grouse.

Gareth believes that for future agri-environment schemes to work, it is essential that farmers are compensated for loss of income and that policy takes into account that every farm is different. He is passionate that livestock still have a vital part to play in delivering twin outcomes of food production and a healthier countryside. He said, *"There's a lot of pressure from environmentalists to stop livestock farming and I think it's wrong. Cattle are a priority for our soil health and fertility as well as giving us top quality protein and from sheep we get a bonus in wool, which we should be making much more use of."* His key message to policymakers is to listen to the Working Conservationists on the ground. He said, *"Talk to individual farmers find out where to best spend taxpayers' money to protect the environment and produce affordable food. We are at a massive turning point, it's going to be difficult, but it has to be done right."*



**Cattle are a priority for our soil health and fertility as well as giving us top quality protein**



**CONSERVATION FOCUS:** Increasing biodiversity and carbon capture through upland habitat restoration  
**LOCATION:** Tyn Llwyfan, Llanfairfechan, Conwy, North West Wales  
**FARM TYPE:** sheep  
**SIZE OF FLOCK:** 4,000  
**ACREAGE:** 2,000 rented and owned hefts  
**TYPES OF GROUND:** hill and lowland  
**CONSERVATION MEASURES:** conservation grazing with sheep and ponies, predation management, woodland management, tree planting





## DAFYDD WYNNE FINCH & CARWYN DAVIES

Dafydd Wynne Finch grew up on Cefnamwlch farm on the north side of the Llyn peninsular near Tudweiliog. He took over the farming business 18 years ago and converted it from a beef and sheep farm to a dairy producing milk from grazed grass for cheese making. Dafydd said, “At the moment these fields get grazed intensively and it’s all about the rye grass monoculture and the cows, we don’t leave much space for nature. We’d like to change that whilst maintaining a productive, profitable farming system. We will be letting grass get more mature and deeper rooted whilst still keeping a good leaf to stem ratio. As farmers we are focused on food production, but I think we need to be doing more than just that.”

Cefnamwlch is run on a share farming basis with Carwyn Davies who owns a percentage of their Jersey cross cows. Carwyn is fully signed up to the transition to regenerative farming but accepts there will be challenges. He said, “I have a big interest in change because inputs are going up each year and the effect on the planet is important. When we graze the herbal lays it gives me a real boost to see how many insects and birds there are compared with the next door field where there’s nothing. I’ve never looked at the nature side of things before, but it’s really opened my eyes. If we can be self-sufficient, profitable and look after the environment that’s everything ticked.”

As well as looking after the health of the farmland, Dafydd is keen to improve the woodland too. He has instigated a new (to him) management system called Continuous Cover Forestry whereby instead of clear felling single species, single age forests a variety of trees of different ages will be encouraged. In the future a few trees will be selectively harvested every five years on a little and often basis. He said, “We will enrich the existing Sitka Spruce stands with other varieties such as Douglas Fir, Western Red Cedar, Scots Pine and over time allow the forest to regenerate naturally. It requires a higher level of management skill so I hope we are up to it.”

**CONSERVATION FOCUS:** Grassland management to reduce inputs and woodland evolution.

**LOCATION:** Cefnamwlch Farm, Tudweiliog, Llyn Peninsular, North West Wales.

**FARM TYPE:** Dairy

**TYPES OF GROUND:** 65% Grazing land, 11% Conifer plantations, 11% Deciduous woodlands, 13% other habitats, hedges, walls etc.

**CONSERVATION MEASURES:** longer post grazing recovery lengths, greater stock densities, a few herbal leys, gradual reduction of nitrogen fertilizer to zero, continuous cover woodland management.

“It’s a long-term project but it’s one we are very excited about.”



# GWCT WALES EVENTS

GWCT Wales organise a variety of events throughout the calendar year, both online and in person. These events are a networking opportunity for like-minded individuals to share knowledge and innovative ideas, discuss the implications and practicalities of Welsh Government Policy and discover new management practices.

## 2021-2022 events included:

### “Soil Health Matters” at Castle Hill Farm near Aberystwyth

An on-farm event, with keynote speakers, Q and A session and farm walk, looking at rotational grazing as a management system for sheep and beef cattle. Themes covered include regenerative agriculture, soil health, composting manure and policy.

### “Farm Walks” at Sealands Farm, Vale of Glamorgan and Salisbury Farm, Newport

Both events showcased farming and conservation working hand in hand. The first was at an organic arable farm, which has achieved carbon neutral farming using liquid digestate, cover crops and minimal tillage. The second event was on a working beef and pedigree cattle farm, with a focus on providing habitat and predation management for wildlife in line with the GWCT “three-legged-stool” approach.

### “Challenging Preconceptions”, Rhug Estate, Denbighshire

By kind invitation of Lord Newborough, this event focused on the challenges of wildlife management. Guest speakers included Keith Offord, ornithologist and wildlife photographer, and David Pooler, gamekeeper on Rhug Estate. The event featured talks, a panel discussion and a guided wildlife walk around the estate and received praise for bringing together people from different policy perspectives.

### “Big Farmland Bird Count” events

To encourage farmers' participation in the Big Farmland Bird Count, various events were arranged throughout Wales alongside webinars in conjunction with NFFN and FUW, aimed to raise awareness of the practitioner survey. The on-farm events included tips for farmers on bird species identification in the field.

### “An Overview of the Ceredigion Farmland Feeder Project” at Penrhiw Farm, Llandysul

Farmers were invited to a presentation about the findings and outcomes of the project. As well as GWCT Wales there were speakers from the Ceredigion Local Nature Partnership and the West Wales Biodiversity Information Centre. The presentations were followed by a farm walk and discussion.





## GWCT WALES PARTNERSHIP PROJECTS

GWCT Wales is involved in several Welsh Government funded Sustainable Management Scheme (SMS) projects across the country. The principle of SMS is to support collaborative landscape-scale projects delivering nature-based solutions to improve the resilience of our ecosystems in a way that also delivers benefits to farm businesses and the well-being of rural communities. GWCT Wales SMS partnerships include:

### **Bro Cors Caron SMS, Ceredigion**

The project area borders the north-east end of the 1,976-acre Cors Caron National Nature Reserve, which is part of the largest lowland raised bog in Britain. Adopting the GWCT's Farmer Cluster approach, conservation measures have been implemented across eight farms in order to reverse local biodiversity declines and improve the water quality and soil health while maintaining productive and profitable farming enterprises.

### **Camlad Valley SMS, Powys**

A Farmer Cluster partnership of 18 farms aimed at improving soil health, water quality, and biodiversity. The area has one of the last remaining populations of curlew in lowland Wales and the project is linked to Curlew Country the wader conservation initiative, which hopes to reverse declines through the GWCT three-legged stool principle of habitat creation, food availability and predation management.

### **The Welsh Farmland Bird Initiative, Gwynedd and Denbighshire**

A GWCT Wales-led three-year European Innovation Partnership (EIP) Wales project, joint funded by the European Agricultural Fund for Rural Development and the Welsh Government. Its goal is to demonstrate how farmland bird numbers can be boosted on Welsh livestock farms through a combination of wild bird seed cover crops and supplementary winter feeding.

### **Winter Feeding Project, Ceredigion**

This collaborative project with the Ceredigion Local Nature Partnership encouraged farmers to distribute supplementary feed for songbirds in winter. Twenty-five farms across the county were given a Perdix Farmland Feeder and 250kg of bird seed mix donated by Kings Crops, enough to last the duration of the hungry gap. The objective was to raise awareness of the value of this measure particularly in livestock farming regions.

### **Cynnal Coetir, Elwy Valley**

In partnership with farmers, Liverpool John Moores University and North Wales Rivers Trust, the project is focussed on woodland health and resilience over 23,500 hectares in North East Wales. It includes studying the impacts of fallow deer and grey squirrel populations, carrying out drone monitoring of invasive Himalayan Balsam on the Elwy river catchment and outreach work to reconnect children with woodlands and wildlife.

# ABOUT THE GWCT

## Working Conservation: Putting research into practice

**G**WCT recognised early on that science-based interventions were needed to achieve multi-dimensional conservation, integrating food production with biodiversity recovery and local community. This approach has never been more important and today the Trust employs over 60 scientists in a wide range of fields from farmland and river ecology to soil health.

For decades GWCT been working with land managers to develop practical solutions to farmland conservation challenges developed from its research. As a result, many of the most widely used Government agri-environment scheme options are based on its science.

As well as the natural sciences, the Trust's unique approach to conservation takes into account social and economic dimensions, which are a major influence on how farmers manage their land. Our partnerships with farmers and other private land managers, the Working Conservationists on the ground, have been the foundation for projects across the UK which have successfully reversed the decline of some of our most threatened wildlife.

### **Biodiversity**

The Trust draws on 50 years of ground-breaking farmland ecology research. The Sussex Study, the longest-running of its kind in the world discovered what it was about post-war agriculture that was driving down populations of farmland birds. In response, the Trust devised a suite of agri-environment options including conservation headlands, beetle banks and managed field margins allowing for the reduction of insecticides and herbicides. Put into practice by farmers, often on a landscape scale through the GWCT concept of Farmer Clusters, its conservation measures have successfully reversed the decline of many red-listed species from hares and water voles to lapwing and song thrush.

### **Soil**

Over the past 20 years, our demonstration farm in Leicestershire has carried out research on soil management to deliver benefits to both cropping and the environment. Studies into reducing tillage intensity identified benefits in reduced runoff, reduced crop establishment costs, and increased soil microbial biomass. Another project addressed the issue of runoff through vehicle tramlines and an erosion plot experiment revealed low ground pressure tyres as the most effective means of reducing soil compaction by farm vehicles.

### **Water**

Water Friendly Farming combines the active participation of farmers with scientific application and evaluation of measures to improve water quality, while maintaining farm incomes. Working in three headwater catchments, the GWCT research team put in a range of measures including silt traps and flood dams and continues to monitor their effects by collecting data on flow, nutrient and pesticide concentrations, sediment, aquatic plants and invertebrates.

### **Climate change**

GWCT has been at the forefront of developing practical ways for farmers to reduce green house gas emissions through soil and livestock management. More recently, it has begun work to develop a hedgerow carbon code, which will help land managers offset their emissions and benefit from natural capital trading. The project is measuring every aspect of a hedges carbon storage capacity from its leaves to its roots and the soil beneath.





JOIN THE WORKING CONSERVATIONISTS FARMING  
COMMUNITY FOR FREE ONLINE AT [WWW.GWCT.WALES](http://WWW.GWCT.WALES)





Wales **GWCT** Cymru

**FOLLOW THE SCIENCE**  
DILYNWCH Y GWYDDONIAETH



Design and Layout: Chloe Stevens  
© Game & Wildlife Conservation Trust July 2022.  
(Formerly The Game Conservancy Trust.)  
Registered Charity No. 1112023  
No reproduction without permission.  
All rights reserved.