NEWSLETTER

Wildlife Matters

Pertwood Organic Farm

AUTUMN 2019

IT ALL STARTS IN THE SOIL

It is an interesting time for us to reflect on what we have been able to do at Lower Pertwood Farm since acquiring it in 2006.

On the agricultural side the Brexit fallout has meant a drop in grain prices and potential difficulties in exporting to Europe which is our primary market. From an agronomical point of view, we have struggled with weather conditions this year that seem to disrupt our operations at the worst possible times.

Finally, being organic means we do not have much in the way of firepower to deal with the unexpected and if a particular insect takes a liking to our crop we have to stand by and allow it to carry on uninterrupted.

These are issues that make the commercial side of the farm a lot more challenging.

OUR PHILOSOPHY

Our philosophy at Lower Pertwood farm is "less is more"; less people, less traffic, less activity, less farming and generally to work on the principle that the way to nurture wildlife is to leave it to look after itself and to respect nature's constant evolution.

Every fence, every road, every building that we have has to be maintained, and in the process we disrupt nature in some form or another. Our crop planting for 2020 is much more wildlife sympathetic than it has ever been in the past. Five fields will be planted on a dedicated basis to support nature in its various forms.

We are very traditional in the sense that we ask ourselves if we were a Celt looking out over these ancient down lands what would we have seen? We would have seen wild animals, trees, gorse and many birds but by and large not much else. We are therefore removing all the barbed wire and most of the fencing from the farm and are opening up areas that have been artificially segmented by roads and tracks. Where possible we are saying to nature "you take over."

A good example is the gorse which everyone admires.

We never planted it. We never touch it except to ask people to stay away. We do not add to it since it expands itself. We do not invite the birds to use it since they know it is there. The less we have to do with it the better. Is there perhaps a lesson in this?

Our thinking is simply that if you create the right habitat and make sure there is plenty of food the animals, birds and invertebrates will find it.

That seems to have been the secret of our success.

FARMING

We are a commercial farm but accept the fact that certain fields on this thin soil may need a massive amount of attention in terms of fertility building and are therefore better off left to nature because that means we do not incur costs.

A detailed analysis of what potentially needs to be done on this farm to achieve high crop yields, in a world of oversupply and too many fat people, is very heavy on the cost side of the equation. For example, we are relying on digestate as a primary source of fertility building and the price has gone up from £3.50 per tonne to £11.50 per tonne in one year. It is now simply not viable for us to use it despite the fact that we have the infrastructure in place to take advantage of it. The market for digestate has simply become too competitive for us.

The commercial pressure is on us. This coupled with the realities of the farming environment in which we find ourselves, means that we are better off reducing our agricultural activity to those fields and those crops which we know will be viable.

This probably represents only 40% of the amount of arable land that we have traditionally been using. Much of our farmland is marginal because of very steep gradients, proximity to woodlands etc.

We find the organic challenge to be enormous but at the same time very exciting because you really have to appreciate that unless you farm with nature as your ally you are never going to win any battle that is mildly confrontational. Many commercial farmers are just beginning to appreciate that.

CURRENT BIRD POPULATIONS

Going around the farm daily, it is evident that the bird and insect populations are expanding. We also know why and we will do more of that because it works.

We do not necessarily need exact measurements simply because we have been here a long time and pick up signals constantly.

Happily, Tim Ridgers-Steer and his small team of bird ringers are very active on the farm and continue to record what is happening. Alison Rymell and her owl support group are very self-contained and they go about their business in the nicest and quietest possible way and report the results accurately. Many other specialist groups support us and guide us in the right direction.

We believe the conditions for wildlife to thrive will constantly improve and we would not be surprised when we review the current statistics in a few years that they could be even better than they are now.

A second brood of Barn owls at Manor farm, happy and fat despite poor hunting weather

EXPERIMENTATION PHASE

We have a total of 67 different fields – they vary in size, topography and soil quality.

The plan that we have put together for the next five years draws heavily on past experience. At the same time it is exciting due to the number of new crops that we are planting and which we believe will accelerate our ability to achieve our objectives.

The example of Bake One, for instance, which has always been considered as not worth planting to arable crops.

Bake One - 65 Acres

There is huge faith in the ability of these chalk down lands to deliver… if you pick the right plants to grow in a specific area. We accepted that it was a poor field and did not add any additional organic material.

We looked at books dating as far back as the early 1900's, to find out what the professors and agricultural experts of the day would have done under similar circumstances 100 years ago.

We started to discover crops that very few people talk about these days like sainfoin, phacelia, fescue and many others. These crops had characteristics that farmers in those days appreciated and used to their advantage. Because these crops did not have instant cash conversion potential for a modern day commercial farmer they fell into disuse and were of little further interest to anyone. They are in fact incredibly impressive plants. As an experiment Bake One was planted solely to Sainfoin as an alternative to Red Clover 2-years ago.

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In year one it found its feet. In year two it exploded but it was also joined by many other interesting plants which Nature delivered on a complimentary basis.

Notwithstanding the arrival of these other guests it flourished. It had very heavy biomass, really good deep root penetration, it was obviously fixing nitrogen and it was unperturbed by any changes in the weather.

Because it was being used as a nitrogen fixing equivalent to a clover grass ley, we did not expect much from it in the first 2-years but its rapid development in year two raised a number of interesting opportunities. Do we cut and bale it and use it for silage? This would mean that the new flush of Sainfoin from a strong root base would very quickly become highly nutritious grazing for sheep. It was also becoming such a wild environment with thick plant cover, tall stems etc., that it had become an ideal habitat for Corn Buntings to breed.

We agreed to do nothing.

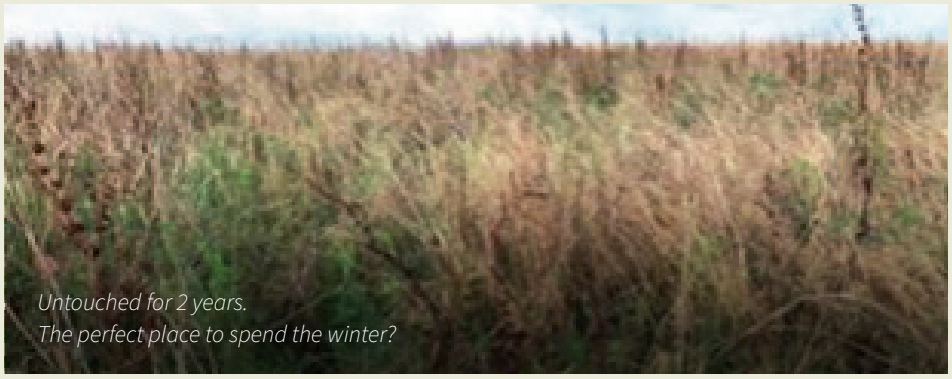
With the corn buntings about to hatch a second brood we had something of a dilemma as the plants were becoming woody and of no nutritional value. We experimented by cutting just one strip to see what happened.

That strip responded very fast and within a couple of weeks we had another crop of sainfoin that was lush, thick and happy.

In fact, it grew so quickly that it got ahead of our ability to put livestock onto it because we were too slow to take advantage and it's now well on its way to becoming another mini jungle biomass patch.

While cutting, there must have been more than 200 corn buntings on this part of the field. They tended to appear in groups of about 15 and would fly and land ahead of the tractor 2 or 3 times and then weren't happy with that plan. They then flew to the untouched section which is substantial and will provide them with adequate cover for winter. In addition, the tractor must have stimulated insect activity because there were the large numbers of swifts, swallows and house martins, flying so fast it was difficult to differentiate them but they were sweeping all around, feasting on insects from the dense plant environment. Inevitably deer bolted out regularly, rabbits kept getting out of the way. Refugee pheasants and partridges (in large numbers from the industrial shoots all around us) strolled around in relaxed fashion. Masses of raptors were hunting down disorientated rodents and bees were omnipresent.

More flint than soil



Untouched for 2 years.
The perfect place to spend the winter?

Results of first cut topped in early September.

Sainfoin powering through the dead first generation biomass in the untouched section.

Has Sainfoin dealt with weeds?
It seems so.

Digging into the biomass is rewarded with masses of earthworms.

PUBLIC AMENITY PLANTING

We have for some years been planting a variety of flower meadows along the A350 for the enjoyment of the public.

In fact, it has become something of a landmark and we will be continuing this programme in the years to come. Weather conditions have not been that good this year but our flowers soldiered on and gave pleasure to thousands.

In Bake One we will therefore have a situation where one field will display every possible combination of circumstances going forward. This will guide us as to what our future strategies should be.

The most exciting thing is how vibrant Bake One has become without any interference from heavy-handed farming activity. We will continue to monitor the wildlife and in this one 65 acre field we can see how varying sections will respond to either zero agricultural input or just minimal faming activity.

These flower meadows are rich with insect and birdlife and undoubtedly make a big contribution to the success of our various wild bee programmes.

Only time will tell but we may have a template here for better crops and improved habitat security in future.

All our supporters need not lose heart. We are only just starting to produce our own organic matter in the fields using nature's magic as our primary productive tool.

We think we must be doing something right.

30% of the field will be left like this (20 acres).

Bake One at sunset, October 2019. Rich in self-generated organic material, no added fertilizer or digestate.

Inside the Pertwood tree hive. Note the red propolis (a resinous substance made by the bees) that protects the lining of the tree and is crucial to creating a sterile and healthy atmosphere inside the tree.

KEEPING AN EYE ON THE COLONIES

After 3 years the Pertwood bee hive inside the old ash tree no longer has bees. It's hard to say that the colony died, because it split into 4 separate swarms that left the Ash tree hive creating new colonies around the farm. The remaining bees in the tree hive were left with no queen, dwindled and eventually lost their food to stronger raiding colonies nearby - likely the daughter swarms.

In nature new colonies reproduce by the swarming process. Weeks before a swarm, the bees start raising male bees called drones as the swarming process requires new queens which need to be mated. At the same time the queen that would normally be laying 1500 eggs a day, is put on a 'forced' diet to reduce her egg laying capacity, and this enables her to prepare for flying again; something she has not done since the first few weeks of her life when she mated with many drones in the air at drone 'congregation' zones.

As the old queen is slimmed down, the bees also start selecting eggs to make new virgin queens. These virgin queens will emerge in just 16 days, but typically 7 days before they emerge the old queen, now able to fly again, leaves with half the colony to find a new home - this is called the prime swarm. When the new queens emerge, they fight to the death to control the hive, but sometimes you might get several secondary or cast swarms, each headed by their own unmated virgin queen, each taking half the colony with them, and this is exactly what happened at Pertwood.

In preparation for swarms we setup two log hives and two simple box hives in the trees. The prime swarm was lost, we do not know its final destination, but one log hive and both simple box hives filled with smaller cast swarms. They have a difficult task to get ready for winter; 77% of swarms do not make it through winter but we hope with the many flowering food sources at Pertwood they will have a better chance of survival. After the first year 84% of established colonies make it through winter and colonies have a mean lifespan of 5–6 years, typically changing the queen each year through the act of swarming.

While we are sad to lose the mother hive we now have 3 colonies in trees at Pertwood and we also for the first time have a chance to see inside the ash tree hive. Analysis of the comb by international bee researchers has helped confirm a leading theory as to why wild colonies survive without chemical treatment from the deadly varroa mite. When wild colonies have enough honey the bees turn their attention to hygienic behaviour which will include among other things destroying varroa mites. Looking at varroa mites in wild colonies - up to 70% are damaged by the bees, but if honey is removed from a hive this figure drops to 15%.

In addition when the hives fill with honey, the colony no longer needs more worker bees, the brood space for new bees is restricted by the honey, and the queen reduces egg laying. Without eggs the varroa mites cannot breed and become infertile. Wild colonies are able to fill hives much easier than commercial hives because they tend to select hives of ~40 ltrs which can be 2-4x smaller than commercially farmed hives. This mechanism is clearly seen in the Pertwood ash tree comb.

We hope the Pertwood tree hive will fill with bees again in May.

If you want to find out more about some of the principles behind the bee project at Pertwood, Jonathan Powell who looks after our project has written this recent article: https://www.naturalbeekeepingtrust.org/beeness

PERTWOOD FRUIT AND SEEDS MUESLI

great organic breakfast!

You can order it online, you can buy directly from the farm, you can buy from selected independent healthfood shops – but you can't buy at at supermarkets!

We made a decision not to deal with the megalithic retailers who largely don't understand our values and are far too greedy in terms of demanding their pound (or kilo!) of flesh. So please enjoy your breakfast; we've enjoyed growing it and having it packed for you.

DON'T SHOOT! WE'RE REFUGEES!

At Lower Pertwood Farm we seem to be surrounded by commercial shoots. Each land owner and farmer has a perfect right to maximise their money-making opportunities, of course, but at Pertwood we prefer not to slaughter birds for gain and/or pleasure.

The birds seem to know this and we have an increasing number of pheasant and French partridge who are in our fields and hedgerows, evidently escapees from neighbouring shoots. Little wonder they always appear so relaxed and happy.

DEVERILL RAPTOR & OWL GROUP

by Alison Rymell, Deverill Raptor and Owl Group

In May I wrote of the really good results the Deverill Raptor and Owl Group [DROG] was getting from early checks of barn owl boxes. We had more pairs in boxes than usual and each had between 4 and 6 eggs and/or young. I did, however, sound a note of caution. The picture had been similar in 2018 before the summer drought with its parched grass limited the number of voles, the primary food source for barn owls… and we lost many young owlets. What has happened this year? Drought, no, but a very wet June!

I am going to use one box on the farm, R22, to illustrate the impact of bad weather on breeding barn owls. Box R22 was erected in 2015, a breeding pair moved in and there have been young each year since 2016. On 10th May this year box R22 contained 3 young owls aged between 2 and 6 days old and 1 egg – so potentially 4 progeny. When we returned to ring on 17th June, there was just one owlet left, a male, fortunately healthy and well fed; there were also two dead youngsters, without doubt victims of the very wet weather in early June which had limited the adults ability to hunt and feed all the young.

In addition to box R22 – to which I shall return in a while – three other barn owl boxes on the farm have had successful broods this year; two pairs of owls raised three young each and another pair, two. Kestrels have also been successful with four young being ringed from a nest box and the likelihood of at least two other pairs of kestrels nesting in natural sites on the farm. Kestrel young fledge more quickly than barn owls and the parents managed to get their young away before the wet weather in early June began. However this weather will still have presented challenges to the young birds hunting on their own; the first year for any raptor is precarious with mortality high. It takes practise and experience to become a proficient predator.

While barn owl first brood sizes had been smaller than usual, we had had good numbers of pairs in boxes and the overall picture was encouraging when we began to check for second broods in September. Let's return to R22; imagine our surprise when we looked in the box and found five healthy owlets.

This year's history of R22 illustrates perfectly the factors affecting the survival of barn owls. A reasonable

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spring enabled the female to reach breeding condition (a weight of approximately 425 grams] and lay 4 eggs, a very wet spell as the eggs were hatching limited the adults ability to catch prey and feed their young, this was followed by a reasonable summer during which the breeding pair flourished enabling the female to lay more eggs and the pair to raise five young, in addition to the one male from the first brood. This is a testament too to the good habitat around the farm.

Overall it has been a very good year for DROG both on Lower Pertwood Farm where 14 barn owlets and 4 kestrel young have been raised – and in the wider Deverill Valley too. Lower Pertwood Farm accounts for almost half of our barn owl success this year; 14 out of a total of 30 barn owl young in the wider Deverills.

When writing an article, I make an effort to limit the emotional responses I have to the situations my DROG colleagues and I find when we check boxes… but believe me, there are sad moments and joyous moments – and the picture of R22's second brood of five was a joyous moment.

by Alison Rymell,
Deverill Raptor and Owl Group

DARK SKIES OVER PERTWOOD

The night sky above parts of Wiltshire, Dorset, Hampshire and Somerset has been designated an international dark sky reserve.

Cranborne Chase Area of Outstanding Natural Beauty (AONB) is only the 14th such area in the world to be certified. The status is awarded by the International Dark-Sky Association (IDA) to areas which offer "exceptional starry skies".

It is the first AONB in the country to be designated in its entirety. The IDA status, which took Cranborne Chase AONB 10 years to achieve, means controls are in place to prevent light pollution.

"We think of our beautiful landscapes as being on the ground, but 50% of our landscape is above our heads, in the sky," said Linda Nunn, director of Cranborne Chase AONB.

"Here in Cranborne Chase we can see the Milky Way and the Andromeda Galaxy, if the clouds allow.

"The AONB has pledged to protect and improve its dark sky for future generations.

"There are huge benefits for nocturnal wildlife, our own human health and wellbeing, for education, tourism and for energy saving. We're thrilled to be playing our part."

Lower Pertwood Farm, being part of "the Deverills" falls within the Cranborne Chase AONB.

BIRD RINGING AND CONSERVATION WORK AT PEEWITS GORSE AT LOWER PERTWOOD FARM

We have been carrying out ringing studies at this site for five years, during which we have grown to appreciate the unique character of this particular part of the farm, Gorse thickets are a relatively unusual habitat in South Wiltshire. Consequently, a program to reduce the scrub canopy and allow the Gorse to regenerate was implemented last winter, improving the habitat for nesting birds and passing migrants.

The Dark green Fritillaries recorded in the course of our ringing studies may have benefited from the more open habitat that has been created. Green Hairstreak would be another species that may benefit from this work, as the larvae feed on Gorse. Moths were recorded during June and July, when attracted to a portable moth light deployed on suitable nights. The Grass Emerald was the most notable record. The larvae of this moth also feed on Gorse, and it's distribution in Wiltshire is consequently very limited.

In the images, Gorse thickets are a relatively unusual habitat in South Wiltshire. Consequently, a program to reduce the scrub canopy and allow the Gorse to regenerate was implemented last winter, improving the habitat for nesting birds and passing migrants. You may note the rather sparse cover of Gorse when the cutting was started. During the summer this has regenerated well and has encouraged us to increase our conservation activities in this area this winter.

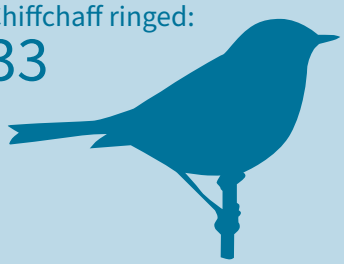
A reduced sycamore

An area where Hawthorn has been both reduced and pollarded to provide a variety of habitat types.

This habitat improvement has also had a beneficial effect on the numbers of birds using the area during autumn migration, with the number of some species ringed showing large increases. One of these being the Chiffchaff. During the autumn of 2018 we ringed 33. This year after habitat management the number increased to 95, with 54 being ringed on a single morning session.

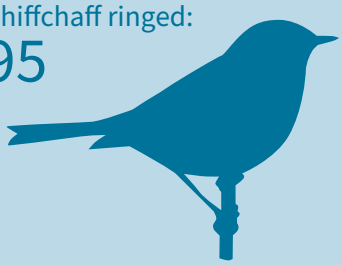
2018

Chiffchaff ringed:
33



2019

Chiffchaff ringed:
95



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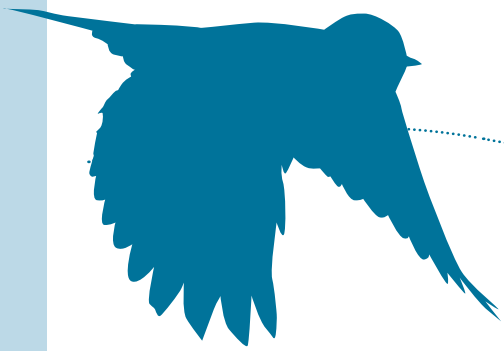
Being able to fit a unique numbered ring to a bird can be a really useful tool especially with migration records. One of the most rewarding aspects of bird ringing is what we call in the ringing world as having a control. This is where a bird that has already been ringed, turns up in a new location. This has occurred in Peewits Gorse.



Bird: **Blackcap** (juvenile)
Date ringed: 30th July 2018
Location: Earl Stonham, Suffolk UK.

Controlled: Peewits Gorse
Date: 30 September 2018
Distance travelled: **159 miles**

Bird: **Willow Warbler** (juvenile)
Date ringed: 7th July 2019
Location: RAF Wyton, Cambridgeshire.

Controlled: Peewits Gorse
Date: 8th August 2019
Distance travelled: **123 miles**

Even more remarkable, we ringed a Willow Warbler, a sub-Saharan migrant aged as an adult in July 2014. Being an adult we know this bird had already completed at least one journey beyond the Sahara and back. It then continued to return to Peewits Gorse to breed for 3 consecutive years. This amazing little bird weighing less than 10gms has made at least 4 migration journeys to Africa and back, a staggering 40,000 miles.

Many non breeding species use Peewit Gorse as a stopover during migration in spring and autumn, one of these being the Sedge Warbler which favour wetlands and damp areas of vegetation.

A Sedge Warbler first ringed in April 2017

After five years of ringing in Peewit Gorse gives us a clear picture of birds that regularly breed here, namely:

Yellowhammer, Linnet , Blue Tit, Great Tit, Marsh Tit, Longtailed Tit, Robin, Wren, Tree Creeper, Blackbird, Song Thrush, Blackcap, Chiffchaff, Willow Warbler, Whitethroat, Garden Warbler, Dunnock, Bullfinch. Hopefully with the continued regeneration of the Gorse, birds like the Lesser Whitethroat may return.

Tim Ridgers-Steer and Richard Creighton

WE'D LOVE TO HEAR FROM YOU

As a passionate organic farm, we believe in sharing information in the hope that we all learn from it. If you have read some of our ideas and adopted them on your farm or in your garden, please let us know! Every gardener and farmer, from neophyte to old-timer, has a metaphorical bag of tricks: a diverse collection of clever strategies, techniques and tools that help them save time, frustration, money – please share your experiences with us.

Write to us via Louise at email **louise.norton@pertwood.co.uk**