



## Newsletter of the Friends of Avon Meadows



View from the boardwalk soon after sunrise on 30 April facing into a stiff south-easterly breeze. The dawn chorus was in full swing with warblers (Cetti's, Reed, Sedge, Chiffchaff, Whitethroat and Blackcap) in full song leading. Cuckoos (male and female) were calling too.

*Photo: Richard Stott*

**Newsletter No: 39**

**April 2020**

### Progress on the Wetland

The dry months of March and April have made the wet winter a distant memory. Perhaps the best news I can give is that spring is coming to Avon Meadows untroubled by the COVID-19. Birds are arriving and/or breeding, butterflies are flying and wild flowers are coming out. Sara Teesdale's poem was written about war but applies equally today.

[There will come soft rains by Sara Teesdale](#)

*There will come soft rains and the smell of ground,  
And swallows circling with their shimmering sound;*

*And frogs in the pools singing at night,  
And wild plum trees in tremulous white,*

*Robins will wear their feathery fire  
Whistling their whims on a low fence-wire;*

*And not one will know of the war, not one  
Will care at last when it is done.*

*Not one would mind, neither bird nor tree  
If mankind perished utterly;*

*And spring herself, when she woke at dawn,  
Would scarcely know that we were gone.*

### COVID-19 Precautions

All work parties and other group activities have been suspended for the foreseeable future. So no Friday moth trapping or Thursday group bird counts.

This will mean our Committee meetings have been halted and our AGM will have to be deferred. You will note that the

### Member's Photographs



This Little Egret dropped into the scrape on 6 April, our first for 2020. They are a bird of warm climates mostly recorded with us in spring and summer. We get up to 4 sightings a year.

*Photo: Jeff Steady LRPS*

### Fund Raising

At its last meeting before the shut-down the Committee agreed to create a Life Membership category.

People who wish to support the Friends of Avon Meadows can become Life Members with a single payment of £50.00.

Those wishing to take advantage of this class of membership should fill in the form at the end of the Newsletter.

Please note that payments can only be accepted by bank transfer during this period of COVID-19 precautions.

Diary Dates table has been deleted from the end of this Newsletter as there is nothing to enter!

Avon Meadows is open for business provided we all obey the Government's recommendations, one visit per day and no closer than 2 metres from anyone you do not live with.

Activities that involve individuals walking alone can continue so it is hoped that we can continue the butterfly and dragonfly monitoring. Bird monitoring is continuing on Thursday mornings but we go out individually at a time in the morning to suit each of us and records are eMailed to be consolidated into the regular report.

We are always looking for good quality photographs of interesting subjects on Avon Meadows to put in the Newsletter so if you get a good shot please send it through.

## Surveys and Sightings

### BIRDS

**NOTE: No Government guidelines have been breached in producing this information.**

#### Weekly Bird Count

In spite of all we are managing to count the birds each Thursday. Those of us who are part of the usual Thursday Group go out individually at convenient times on Thursday as part of their daily exercise and their observations are combined to contribute to our records. Experience is showing that this system is working well and the results compare well with those taken in normal times.

The birds generally did not like the wet winter although our resident species were much in evidence and there were very few surprises.

The counts over the last 3 months have varied between 39 and 51 species each week Total year count 86 to date.

High winds over Greece on 5-6 April killed large numbers of Swallows and Swifts returning to northern Europe for the summer. They were being found dead on the ground over a large part of the country. It is too early to say whether this event will affect populations on Avon Meadows.

#### Interesting or Unusual Species

**Common Grasshopper Warbler** A short burst of song was heard on 15 April and a huge surprise. Is is the first spring record for this species the previous two were in June 2013 and 2014. By 21 April it was estimated that at least 4 birds were present.

#### Summer Visitors - First arrival dates

Our winter visitors have all gone now and the summer ones have begun to arrive, April being the big month for this.

5 April - Swallow	12 April - Sand Martin
7 April - Willow Warbler	13 April - House Martin
7 April - Whitethroat	15 April - Cuckoo
9 April - Sedge Warbler	21 April - Swift
10 April - Reed Warbler	

#### New for the year

There have been no completely new birds for Avon Meadows so far this year but a number of new records for 2020 have been received since the last Newsletter. A Tawny Owl was



A Willow Warbler, a species which passes through Avon Meadows each spring in small numbers. Note the prominent eyebrow, pink legs and relatively long wings, all things that show it to be different from a Chiffchaff.

Photo: Jeff Steady LRPS

heard on 28 Feb at 04h30 in the morning; a single Rook flew over on 7 March; Red Kite on 12 Mar; an Oystercatcher on 30 Mar; a Little Ringed Plover on 4 April, a Little Egret on 6 April and a Green Sandpiper on 27 April bringing the present year's total to 86.

#### Breeding

At this time of year breeding birds are an ever present source of interest. We have recorded 51 species that breed either on Avon Meadows or very close nearby. Not all breed here every year and occasionally there are new breeders.

This year we have 2 pairs of Swans nesting, one of which we believe is sitting on 7 eggs.

A pair of Little Grebes arrived on 16 March and have remained so we hope they are breeding (they last bred in 2011). The first Mallard chicks were seen on 26 March when a brood of 9 was seen, sadly only one of these remains.

Coot chicks were seen on 4 April soon followed by 5 Moorhen chicks on 15 April.

Cetti's Warblers are holding 3 territories and Water Rail is heard regularly leading to hopes that it will breed again this year.

#### Grasshopper Warbler *Locustella naevia*

This is another small brown bird found in reed beds, like Cetti's Warbler! It is a scarce species on Avon Meadows with only 2 records in the last 10 years. Most of the *Locustella* family occur in eastern Europe and SE Asia. Ornithologists are still finding out more about this group of skulking reed bed dwellers but up to 22 species are recognised at present.

The Common Grasshopper Warbler is a local summer visitor to the UK spending its winter in West Africa and India. Its most notable characteristic is its song, a continuous buzzing sound (<https://www.youtube.com/watch?v=IQiGRus4ETk> - hold down Ctrl and click on the link). Amazingly, the longest uninterrupted song was 110 minutes although it is thought

the bird takes a breath so quickly that the human ear does not notice.

With the brief glimpse you occasionally get through the reeds the bird looks a bit like a Sedge Warbler (which has a very different song) but without the prominent dark and white eyebrow. Compare the images in alongside.

They live for up to 4 years and breed mostly below 300 meters. They are widespread in the UK but never common. In order to breed they need thick scrub to build a nest, several song perches and a rich supply of invertebrates within 50m of their nest

It is one of many species that has been declining in recent years, 20% down in the last 10 years. Recent estimates for the breeding population put it at about 12,000 breeding pairs at the time of the last major ornithological publication (The Birds of the Western Palearctic) was published in 1992 the breeding population was about 25,000 pairs.



**Sedge Warbler (Left) and Grasshopper Warbler (Right) in April on Avon Meadows. They look easy to distinguish here do they not but not when they are dodging about in thick reeds!**  
Photos: Jeff Steady LRPS

## The Value of Avon Meadows

By Ken Pomfret and Liz Etheridge

### Executive Summary!

We receive £5,580 each year under the Countryside Stewardship Scheme. It is calculated that the benefit Avon Meadows gives to the community (i.e. us) is £154,291 per year. This is a staggering return!

Here is how we work it all out.

### Introduction

For those of us that love and care for Avon Meadows, putting a price-tag on somewhere that gives us so much pleasure can seem a little mercenary and not the right way to go about ascribing a value to something as priceless as hearing the first Cuckoo of spring or the delight on a child's face when they see their first newt. Nevertheless this is what we will be asked to do.

Currently, Avon Meadows receives funding through the Countryside Stewardship Scheme to manage our reed beds and ponds, to preserve our mature trees, to maintain our ditches and to restore the grassland to a wildflower meadow. Under this scheme, which is driven by European Union's much maligned Common Agricultural Policy, the Government provides funding to farmers and other land managers in England who deliver effective environmental management of their land. In practice the scheme is somewhat rigid with set amounts paid for specific actions but little attention given to the contribution these actions make to the wider social benefits.

Things are changing now we have left the EU. Under the 2020 Agriculture Bill our government is introducing new Environmental Land Management (ELM) schemes under which farmers and land managers will be paid to deliver things that benefit all of us, like flood protection, access and recreation, pollination, biodiversity, climate change mitigation, clean air and water, healthy soils and of course food production. Payments will be for outcomes with the mantra for these

ELMs being "Public money for Public goods" which implies putting a monetary value on the benefits achieved.

### How we value grassland

Some of these measures are easier to monitor than others. For Avon Meadows, the biodiversity measures are quite straightforward to see. Thanks to the extensive monitoring by the Friends of Avon Meadows we have data going back over 10 years that shows the increase in bird diversity, as well as data for butterflies, moths and dragonflies.

The restoration to species-rich grassland also means that we have excellent records of the progression of the meadows, with data from before and after so we can chart the appearance of new plants brought in through green hay and seed strewing. So far we have seen ox-eye daisy, common knapweed, wild carrot and bulbous buttercup establishing themselves in good numbers. None of these species were present before, so we know we are already enhancing biodiversity through these measures, along with the maintenance of the reed beds and ponds which are attracting so many crucial invertebrates to the wetlands. So in terms of benefitting biodiversity and pollinators, Avon Meadows is doing really well but what is their monetary value? A study of Natural England's meadow at Cricklade in Wiltshire assigned a value of £499/ha (hectare) to its biodiversity and £29.14/ha its pollinator habitat. Using the same values for our Meadows gives totals of £11,976 and £700 per year for biodiversity and pollination respectively.

Similarly, in the case of flood water storage, the contribution of our Meadows has been plain for all to see this last winter. Taking the figure used in the Cricklade study of £197 per ha per year the value of this natural hazard regulation is £5,100

Carbon capture is actually one of the easiest things to measure. Taking regular soil samples means that we have a good picture of how much carbon, or carbon dioxide equivalent the soils at Avon Meadows are storing, year on year. Keeping our soils covered with grass, growing plenty of Red Clover, Birds-foot-trefoil and other nitrogen fixing plants helps lock in soil carbon, as does grazing with animals. They convert the grass to dung, which is recycled by soil

bacteria, worms and beetles back into the soil, keeping it locked in.

Based on our 2018 and 2019 soil samples, the organic matter content at Avon Meadows increased from an average of 15.2%, which is very good, to an average of 19.8% which is incredible! There is a warning about this data however; we switched laboratories, so our 2019 results are much more detailed than before so we may just be getting better data. However, the results certainly confirm that floodplain meadows are one of the best habitats for storing and capturing carbon; far higher than arable farmland which can actually release carbon. Also, while the soils store most of our carbon, hedgerows, riverside trees and scrub also store a huge amount of carbon, as do the black gooey layers of mud in the wetlands and ponds.

**Technical Aspects**

The best way to calculate our carbon sequestration is to use the Farm Carbon Toolkit which takes us through a comprehensive questionnaire about our land and activities. It then uses these inputs to calculate the total carbon sequestered by our soils, wetland, trees and hedgerows and also offsets this by the emissions generated by our activities such as haymaking and even our reed bonfires. The results for 2019 give a total of 228 tonnes per year of CO<sub>2e</sub> (CO<sub>2</sub> equivalent) of which 186 tonnes were taken in by the soils. This is offset by 28 tonnes of CO<sub>2e</sub> generated giving a net benefit of 200 tonnes CO<sub>2e</sub> in the year. In terms of monetary value, CO<sub>2e</sub> is actually a traded commodity with a current price of £60 per tonne. Carbon capture for Avon Meadows is therefore worth £12,000 per year.

Clean water is harder to value. Our reedbeds do a fantastic job of taking run-off water loaded with phosphate, nitrate and other contaminants plus turbidity by removing these contaminants, preventing them from flowing directly into the River Avon. Students from the University of Worcester and colleagues from the Freshwater Habitats Trust have studied the changes in levels phosphates and nitrates across the wetlands. Water flowing into the wetlands through the Severn Trent outfall pipe typically has phosphate (P) concentration of over 3mg P/l (per litre) but, by the time it leaves the wetland over the tilting weir that is down to 1.2mg P/l. The comparable nitrate (N) concentrations are 3mg N/l at the outfall pipe and around 1mg N/l at the tilting weir. By comparison, the river Avon has almost 1.8mg P/l of phosphate and 3.6mg N/l nitrate. Actually, the nitrate levels in the river are not so bad with the WFD guideline set at 5.6 mg N/l.

Under the EU Water Framework Directive (WFD), which the UK still adheres to, the amount of phosphorus has become a measure of the health of our rivers. This is because higher phosphate levels foster the growth of algae and associated bacterial contamination. The set guideline is 0.1mg P/l (which is actually higher than the 0.025 mg P/l set by the US Environmental Protection Agency for reservoirs providing drinking water!) So the Avon is not so good and would be worse but for the clean-up job of our reedbeds.

In terms of a monetary valuation, if we just look at the phosphate concentration reduction we have calculated and indeed observe that for every inch of rain that falls, the level in our main lagoon increases by about 2.5 inches; which

means that 1.5 inches (40mm) comes in from run-off water via our settling pool. Given the area of the lagoon is about 17,000m<sup>2</sup> (4.2 acres) and that the average annual rainfall in Pershore is 550mm, 15,000m<sup>3</sup> (=15 million litres) flows into the main lagoon annually from the settling pond and ultimately exits to the river over the tilting weir. The phosphate reduction of 1.8mg P/l means that the reedbeds extract annually 27kgs of phosphorus. A recent study in the USA indicates that the cost of phosphate removal is between \$44.22 and \$60.89 per lb. That equates to about £145 per kg so the job our reedbeds are doing is worth £3,915 per year.

There is agricultural production on the Meadows in the shape of average 60tonnes of hay per year valued at £75 per tonne or £4,500 in total. In addition we contribute through the grazing of our ewes (floods permitting) but that is difficult to quantify.

Turning to the social value of the Meadows, the Land, Environment, Economics and Policy Institute (LEEP) at The University of Exeter with funding from DEFRA has produced an Outdoor Recreational Valuation tool (Orval) which enables a rough and ready estimation of the recreational and wellbeing values to a community of a given green space. Within the many thousands of greenspaces assessed, Orval places a value for Avon Meadows of over £110,000 per year for the health and wellbeing of the people of Pershore for an estimated 35,500 visits per year. Again, this value comes with a warning, as the system has not yet recognised Avon Meadows as a Local Nature Reserve, which would increase its welfare value to the local population.

Finally we have the time put in by our volunteers which has recently averaged over 700 man hours per year. At the current minimum wage of £8.72 per hour that adds up to £6,100 per year.

**Results**

So can we put a price on the priceless?

In summary, the **annual value** of Avon Meadows to the community is:

Biodiversity (£499/ha)	£11,976
Pollination and natural pest control (£29.45/ha)	£700
Natural hazard regulation	
- flood water storage (£197/ha)	£5,100
Carbon capture (CO <sub>2e</sub> £60 per tonne)	£12,000
Water quality improvement	
- phosphate removal only	£3,915
Food production - hay for livestock only	£4,500
Recreation and welfare	£110,000
Volunteer time	£6,100
<b>GRAND TOTAL</b>	<b>£154,291</b>

Not a bad return to the taxpayer for the £5,580 paid in annually under the Countryside Stewardship scheme!

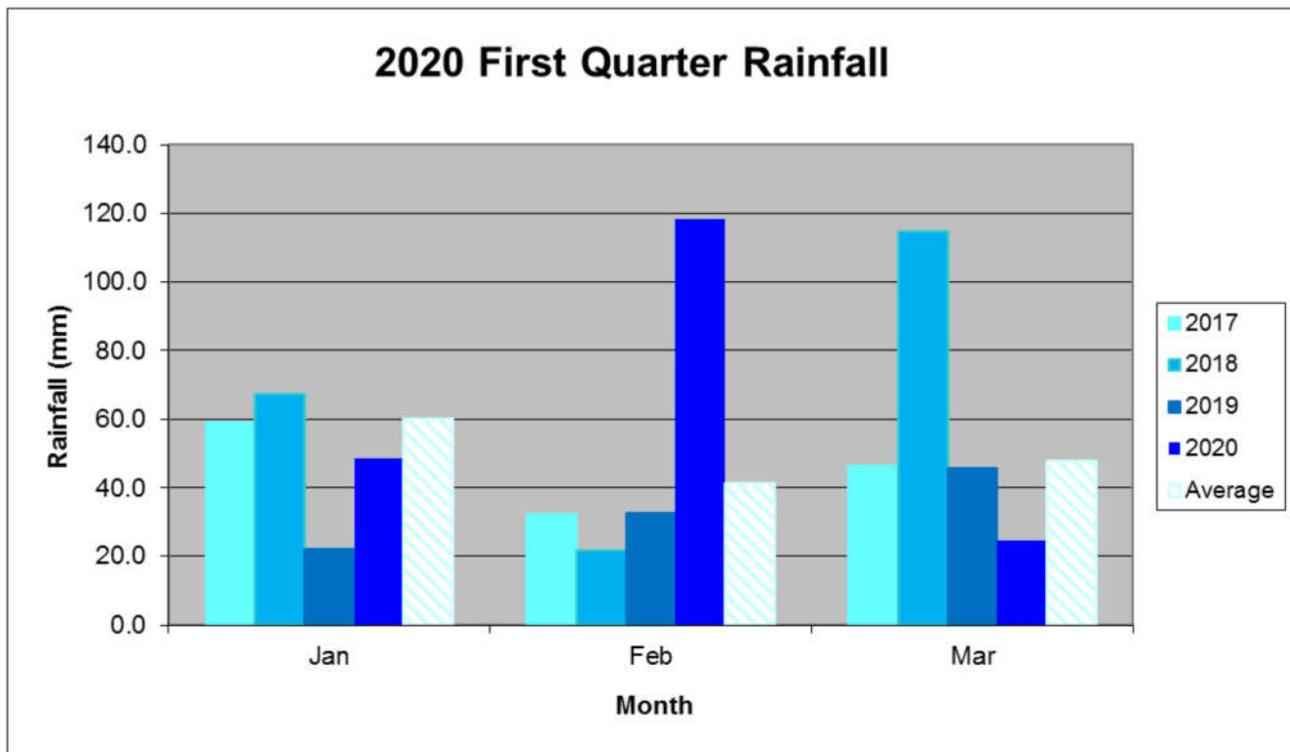
## How you can help us

Work Parties - Suspended due to COVID-19 regulations.

Interesting sightings - Take a picture. Send it to Liz, Bob or Richard with date, time and approximate location.

Newsletter Circulation - Know anyone who would like one? Let Richard have **their name and eMail address**.

## Water Levels



The flood plains were made good use of over the winter with the February rainfall being 286% of average. By contrast the March rainfall was 50% of average and so far April has only had 20% of its average rainfall. Dip well measurements indicate that the water table has quickly dropped to its normal level, between 20cm and 70cm below the surface.

## Administration

### Officers of the CIO Committee

Chairman - Richard Stott richarddestott@gmail.com

Treasurer - Bob Gillmor avon.meadows@btinternet.com

Secretary - Val Wood val@wood20.plus.com

Work Parties - Ken Pomfret KenPomfret@btinternet.com

### Website

<http://www.avonmeadows.org.uk/>. The site will be kept current, check here first to see what is happening!

The Website holds a number of other interesting and useful links which are worth exploring.

### Contacts

If you would like any more information about volunteering contact either an officer of the Committee directly by eMail or by telephone to:

Ms Liz Etheridge, Wychavon District Council.  
 Tel: 01386 565366  
 eMail: liz.etheridge@wychavon.gov.uk



Pershore's Community Wetland and Local Nature Reserve
www.avonmeadows.org.uk

Membership Application/Renewal

If you wish to join or renew by online banking, please use the following details:

SORT CODE 77-68-78 (TSB Bank), ACCOUNT NUMBER 01118468 and QUOTE YOUR SURNAME AS THE PAYMENT REFERENCE. Then please e-mail membership@avonmeadows.org.uk with the details requested below. If you would like to set up a standing order, please use the same details and again let us know by e-mail. We cannot currently handle direct debits.

If you wish to join or renew by cheque, please print and complete this form and send it together with your cheque, payable to The Friends of Avon Meadows to:

Mr. T.C. Hutton, 15 Green Close, Childswickham, Broadway WR12 7JJ

Family subscription £10 per annum [ ] Individual subscription £5 per annum [ ]
Life Membership subscription a single payment of £50 [ ]

FULL NAME: \_\_\_\_\_ TITLE (Mr, Mrs, Ms etc.): \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TOWN: \_\_\_\_\_ POSTCODE: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

Charity Governance/Fundraising standards and Data Protection (including GDPR)

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