

### Farming Matters Issue 5 Winter 2019/20

Welcome to the winter edition of 'Farming Matters', Eden Rivers Trust's newsletter to update our Countryside Stewardship Facilitation Fund farmer groups and stakeholders on recent and forthcoming events and meetings, relevant projects and news and tips of topical interest.

Our two farmer groups join 98 other Natural England Facilitation Funds working collectively to deliver greater benefits for soil, water and wildlife at a landscape scale.

New members are always welcome. If you know of anyone who farms in the Leith/Lowther or Petteril areas who might be interested in joining our farmers' groups, please get in touch!

### News

What a difference a year makes!



Last year we had the extreme weather of winter and summer to

deal with. This year has thrown up its own challenges as the persistent rainfall and elusive sunshine has meant that the ground was frequently soft and has made all field and harvest operations difficult. Normally the sward lifters would be out working in maize stubbles in the autumn, but the recent wet weather has curtailed this valuable work.

At least it appears that most livestock farms have a good supply of fodder to carry them through the winter with fourth and fifth cuts of silage having been made in many areas.

News continues on next page >>

### **Events**

2020 events for your diary. Check the ERT website for more details nearer to the event

**Jan** 15th - River Petteril FF AGM

Lowther/Leith meeting: Fertiliser Application and machinery calibration

#### **February**

5th - Natural Capital Day (both FF groups)

Lowther/Leith FF AGM

**March** Sward lifter and aerator event

**April / May** Meetings: Countryside Stewardship applications

Lowther/Leith Meeting: Grazing and pasture management

#### June

River Petteril Summer Tour - to look back and celebrate the success of the Facilitation Fund.

> Book your place 01768 866788 office@edenrt.org

We continue to drive forward initiatives for engagement with the next generation of farmers and landowners and have been very pleased to be involved again with Newton Rigg Level 3 Advanced Diploma students in the **Great Farm Challenge**.

The Great Farm Challenge is a collaborative project and is delivered by Natural England's Catchment Sensitive Farming team, the Environment Agency, and United Utilities. We have been involved in helping to deliver the events for a few years now.

Since it started, the challenge has engaged more than a thousand agricultural students nationally to increase awareness of water friendly farming and, more recently, ammonia emissions amongst the young farming community.



Chris Turner (CSFO) demonstrating the finer points of soil structure to Newton Rigg students

The initial events are being held earlier than in previous years as the topics covered fit in much better with the curriculum. It is hoped that many of the Newton Rigg teams will be successful in these early events and will make it to the Regional finals.

#### **Defra-related news**

In line with the general focus nationally and the release of the **Defra Clean Air Strategy 2019** document, we have begun to focus attention within the Facilitation Fund Groups on air quality and in particular ammonia emissions.

We were very fortunate to have Colette Garner from Natural England come and speak to us about ammonia and why it is a problem for both air and water quality in the UK.

Colette also joined our groups on some of our farm visits and her contribution to discussion was much appreciated.

Andy Dyer is now a member of the **Defra Technical Advisory Group on Environmental Permitting (Dairy and Beef)** and has a valuable insight in to how this rapidly emerging theme will impact on farming businesses within the Eden Catchment, see the article on page 4 for further information.

We were very fortunate to have been selected to be part of the **Defra Environmental Land Management (ELM) engagement programme** and members from the two Facilitation Fund Farmer groups held two successful discussion meetings earlier in the year in conjunction with Defra officials.

The resultant feedback from these sessions, at one of our autumn meetings, was somewhat disappointing but the salient points raised by our group members seemed to have been picked up and understood. We now wait ever patiently for Defra to decide what the next move will be. As all of you will be aware major changes to existing agricultural support schemes (BPS and CS) are planned from 2021 onwards. This means the removal of all BPS payments by 2028 and the introduction of the new **Environmental Land Management** (ELM) schemes from around 2025 onwards which will, theoretically, go some way to replace both BPS and CS payments in the future.

It was clearly apparent from our initial consultation meetings with Defra that the new concepts under ELM of Natural Capital and Ecosystem Services were difficult to grasp and quantify.

Therefore the Facilitation Fund farmer groups have started to look at how we can identify, quantify and allocate (eventually) a value to Natural Capital on the understanding that this will form an income stream for farmers and landowners to be valued as part of their business revenue in the future.

There will be more about allocating value to Natural Capital in the next newsletter.

We continue our very active engagement with our two CSFO's (Chris Turner and Susan Kensworthy) to assist them more generally with group members who are planning **CS Mid-Tier Water Capital applications**, including running workshops, signposting farmers to handbooks, planning matters and RLE1 forms.

> Please contact either Andy or Sarah on 01768 866788 to discuss any plans and thoughts you may have for CS applications in 2020.

#### Still spreading the water management message

This year we have continued to get the water-friendly farming message out far and wide via newspapers, social media and at local shows to help inform the wider farming community and general public of issues and events which may be of general interest.

One of the issues this year has been an increase in on-farm inspections around the Farming Rules for Water (see article later in the newsletter).

Having stands at a number of local shows this summer and at Agri-Expo has been a very useful way of raising awareness with the general public, our supporters and also the farming community of this particular issue as well as other opportunities and challenges to being both financially and environmentally sustainable.

Thank you to everyone who took time to stop for a chat, it is much appreciated.



#### **Farming Rules for Water: breaches and NVZs**

In our day-to-day roles as part of the Farming and Conservation team at Eden Rivers Trust, we spend a lot of time helping farmers and landowners understand and interpret the rules and regulations that affect the agricultural sector and the environment.

#### The Farming Rules for Water,

which came into effect in April 2018, are part of a new approach to regulating the agricultural sector by using rules that are risk-based and focused on outcomes.

The initial aim was to set some rules: a baseline of consistent good practice across the agricultural sector in England.

These rules will be reviewed in two years' time to establish how well they are delivering against expected outcomes.

They also aim to fulfil the UK's obligations under the EU Water Framework Directive and to build on the advice currently given under the Code of Good Agricultural Practice (CoGAP) for Soil, Water and Air.

#### **Compliance and breaches**

Compliance with the rules is assessed by the Environment Agency.

There have been a number of reported breaches of the Farming Rules for Water in the Eden Catchment for which farmers have received warning letters and, in some cases, advisory visits.

The weather this year has added to the challenge of adhering to the Rules, particularly for those with land in a Nitrate Vulnerable Zone (NVZ).

It has been difficult in terms of slurry management and storage when ground conditions have not been favourable for spreading.

Many of the breaches have been for spreading slurry when ground conditions are not deemed suitable under the regulations i.e waterlogged with rain anticipated.

### Encouraging best practice in slurry spreading

We are currently working with the Environment Agency (EA) and

Natural England (NE) to organise an event early in 2020 for agricultural contractors who are involved with slurry spreading.

The event will be aimed at bringing contractors up to date with legislation and best practice techniques when spreading, particularly when using umbilical systems.

If your store is getting full and you are within the NVZ closed periods then it is always worth contacting the Environment Agency to discuss how you can potentially obtain a short term derogation to spread some slurry to relieve the pressure on the store until the closed periods come to an end and it is suitable to travel again.

If you would like to learn more about these rules and how they are being monitored, please contact Andy or Sarah.

The EA have produced a list of Good Practice Guidelines for contractors.

Copies of the Guidelines can be obtained by e-mailing Andy Dyer at andy.dyer@edenrt.org





What does this mean for environmental permitting regulations under Defra's Clean Air Strategy 2019, especially if you're a dairy/beef farmer?

#### by Andy Dyer Senior Farming and Conservation Officer

There is a commitment from central government as part of the Clean Air Strategy 2019 to extend the existing environmental permitting regulations, such as those found covering the pig and poultry sectors, to cover the dairy and the intensive beef sectors.

So what does this actually mean for the farmer on the ground?

Ammonia itself is not a "greenhouse gas" and in low concentrations, ammonia is not harmful to human health.

However, when ammonia emissions combine with pollution from industry and transport (like diesel fumes) they form very fine particulate matter (PM2.5), which can be transported significant distances, adding to the overall background levels to which people are exposed.

It is estimated that particulate matter emissions as a whole result in 29,000 early deaths every year in the UK.

#### Extract: Defra Clean Air Strategy 2019 document:



The agriculture sector accounts for 88% of UK emissions of ammonia, which is emitted during storage and spreading of manures and slurries and from the application of inorganic fertilisers.

Ammonia damages sensitive natural habitats and contributes to particulate pollution in urban areas.

Action by farmers can make a big difference to ammonia emissions.

The government is already acting to help farmers by funding the necessary equipment.

We will require and support farmers to make investments in the farm infrastructure and equipment that will reduce emissions. A future environmental land management system will fund targeted action to protect habitats impacted by ammonia.

We will continue to work with the agriculture sector to ensure the ammonia inventory reflects existing farming practice and the latest evidence on emissions.

We will regulate to reduce ammonia emissions from farming by requiring adoption of low emissions farming techniques. We will extend environmental permitting to the dairy and intensive beef sectors. We will regulate to minimise pollution from fertiliser use, seeking advice from an

pollution from fertiliser use, seeking advice from an expert group on the optimal policy approach.



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When deposited on land, ammonia can acidify soils and freshwaters, 'over-fertilising' natural plant communities.

The extra nitrogen can increase the growth of some species (such as rough grasses and nettles), which out-compete other species (such as sensitive lichens, mosses, and herb species) that have lower nitrogen requirements.

The time-frame for delivery of the various elements is very tight with proposals to ban all splash plate spreading in the UK by 2025 and for all slurry stores to be covered by 2027.

These are massive asks from a dairy and intensive beef industry that is by and large operating with an infrastructure which may be 30-40 years old, has probably grown as the enterprise has expanded over the years and may not be conducive to retrofitting of additional structures and measures.

Eden Rivers Trust's involvement with the **Defra Technical Advisory Group** means that we have a voice and opinions to put forward to help ensure that initiatives to reduce ammonia emissions which then impact positively on water quality (either directly or indirectly) are sensible and appropriate and deliver clear environmental benefits. Defra have produced some resources to help:

Download Defra's national code of good agricultural practice (COGAP) to reduce ammonia emissions >>

Defra Clean Air Strategy 2019>>

# There's no time like the present ...



by Sarah Kidd Farming and Conservation Coordinator

#### ... to start planning your application for this year's CS schemes!

Word in the field is that Mid-Tier will once again be opening up for applications in early 2020. If your farm sits in the River Eden Catchment you are classed as being in **a high water quality priority area**, and as a result the envy of many because you have the opportunity to apply for a wider range of capital items for your farm than for those farming in a low water quality priority area. Here is the memo, so don't miss the boat.

#### Make a plan before you need one

Now is the time to start planning, don't wait until the opening date.

Why not to get to grips with the range of capital items and wildlife options on offer and see how they could fit into your farm business before the scheme opens? This is also the ideal time to approach Facilitators, agents, CSFO's and planning authorities before they get booked up and start developing waiting lists as more people become interested.

#### Are you in the River Lowther/ Leith or Petteril catchments?

Don't forget that members of our catchment Facilitation Fund farmer groups are entitled to free, group Mid-Tier guidance. Natural England have people on the ground who are employed in particular catchments to make Mid-Tier schemes accessible to farmers and landowners.

#### Don't forget, help is also on hand from Eden Rivers Trust!

If you would like to discuss any element of the CS schemes or your eligibility then please contact Sarah or Andy. We are also arranging farmer group events in the spring to focus on the schemes.

# Event briefing: Soil sampling workshop

Lowther/Leith Facilitation Fund event held at Lansmere Farm, Newby on 22 October



by Sarah Kidd Farming and Conservation Coordinator

### What does soil need to grow grass?

The soup was hot, the bacon was crispy, and the attendees were happy! Once we had satisfied our members' hunger, talk turned to how hungry crops and grass are for phosphate, potassium, magnesium and lime.

But is too much phosphate, potassium and magnesium pushing our soil indices up too high? Crops and grass don't require an excess of nutrients, and if we really looked hard at the expense of over-application of product and labour, I doubt we would want to feed our soils too much to generate a crop either.

### Some more legislation, but here is a heads up from us

The Farming Rules for Water introduced in 2018 now require all farmers to soil sample all of their cultivated land at least once every five years, and also produce a nutrient management plan.

Under the new rules cultivated means any land which has organic manure and/or artificial fertiliser spread over it. This does not include manure directly deposited onto the land by livestock.



Susan Kenworthy (CSFO) demonstrating how to use a soil augur to extract a core sample

### You've got to speculate to accumulate

The event aimed to make the practice of soil sampling and interpreting results clearer. We also touched on how this interpretation can tell us how to reduce the cost of artificial fertiliser use.

For example, one of our members had already reviewed the use of his fertiliser with his agronomist, and gone on to make savings on his farm by reducing any excess application of product.

#### Magnesium, you're binding my soil, knocking my cost of production daily

For the event, we used results from Lansmere, predominantly a dairy farm, but also with beef and sheep. We dug a soil pit (below) and found a heavy, and dense layer on top with dry, and friable matter beneath.





Lowther/Leith Facilitation Fund coordinator, Sarah Kidd talking about slurry spreading and soil sampling

This dense, binded layer reduced the amount of water that could infiltrate, which explained the drier, friable soil underneath.

Soil results revealed that the magnesium indices were particularly high which explained (along with compaction) why the soil was binding, and therefore also burnt more fuel because it was harder to work.

We had a local agronomist with us, and he explained that high magnesium indices were common in the Eden Valley as a result of historic use of Magnesium lime. In this case, the clay content of the soil was also a factor.

Aeration and subsoiling could remedy this layer, *but not necessarily solve it*. Circumstances to resolve high magnesium indices do change depending on the individual farm.

Gypsum (I'm not getting commission from anyone either!) could well be the solution to displace the high magnesium levels in the soil. Calcium and sulphate, which are contained in gypsum act to displace the magnesium.

However, as usual, there is more to it than that, and I would suggest consulting a professional before ploughing on.

#### A nutrient management plan with a little help from the Farmer Network

At the event, members learnt how to take samples of soil, and where to send their findings.

If you're interested in finding out more about soil sampling and nutrient planning:

- <u>Download our guide to soil</u> sampling (PDF) >>
- The Farmer Network is currently offering soil analysis plans at discounted rates to help you get the ball rolling with the new rules.



ERT's Head of Conservation, Alasdair Brock, at one with the soil!

We'd like to say a big thank you to Susan Kenworthy, one of the Eden's CSFOs (Catchment Sensitive Farming Officers), for speaking at the event, and also to farm owner, Mr Somerville, for kindly allowing us to host the event.

# Water-friendly farming calendar: Winter tasks



by Andy Dyer Senior Farming and Conservation Officer

Every farm relies heavily on the soils that are present on the farm. Whether they are used for supporting buildings, digging lagoons in, growing grass, fodder or arable crops, their role is vital.

Soil management is an integral part of every farming business and is an area of continued interest to all whether they be actively farming or involved in regulation or research.



For many farms in our catchment, soils will be at, or close to, field capacity for much of the winter period which may limit the ability to get onto the land to perform seasonal tasks.

At this time of year soils perform a valuable function in retaining and holding onto soil water and soils of good structure will in general retain more water than those with a poor structure.

There are a couple of tasks you can undertake now to identify the state of your soil ready for spring.

### **1** Check the level of compaction in your soil

A very useful task to undertake over the winter is to take a spade and dig a hole in areas of a field or fields where you suspect that soils are impermeable and where water is running off/not draining away.

Identifying possible layers of compaction/soil pan at depth in the soil will help with planning which fields require remedial action in the spring such as aeration or sward-lifting.

We are in the process of replacing our two sward-lifters with one new machine (same model and make as the existing machines) which will also be fitted with a seed kit (hydraulic fan drive) so that it can be used for sowing catch and cover crops into stubbles or to establish forage crops.

#### Contact us for more information:

To hire our aerators and sward-lifter - Andy on andy.dyer@edenrt.org About soil sampling etc. - Andy or Sarah on 01768 866788 or e-mail andy.dyer@edenrt.org / sarah.kidd@edenrt.org

### 2 Sample your soil

Combining digging trial holes with actual soil sampling is also very beneficial in determining soil pH and levels of phosphate, potash and magnesium.

High levels of magnesium (possibly arising from applications of magnesium lime in the past) can make some soils hard to work. If this is found to be a potential problem, this may mean a switch to calcium lime in the future to help balance the soil magnesium levels.

Sampling is a relatively straightforward procedure. From taking a number of soil cores (which need only be at a depth of 4-6 inches in grassland) to putting the samples in the post and having the results interpreted can take a matter of days rather than weeks.

We have a number of soil augers which are free to borrow if you want to have a go yourselves and our Catchment Sensitive Farming Officers (CSFOs) may be able to assist with the costs of analysis.





Eden's farmers are well placed to take advantage of schemes that reward tree and hedgerow planting, but why is this becoming more important?



In response to growing concerns about climate change resulting from increased carbon dioxide concentrations in the atmosphere, considerable interest has been shown in the possibility of increasing the rate of carbon sequestration through changes in land use and forestry and also through techniques such as carbon capture and storage.

The main influences on carbon emissions within the Eden catchment are agriculture, villages, towns and cities and also the main infrastructure routes such as the M6, A6 and the A66 as well as the West Coast Main railway line and the Settle to Carlisle railway line. A large proportion of farming within the Eden catchment is on permanent grassland, much of which will never be ploughed up and therefore offers a good opportunity to capture and retain carbon.

This affects areas such as: land surrounding the Caldew, the Lower Eden, the Petteril downstream of Penrith, certain sections of the Upper Eden around Kirkby Thore, Appleby, Crosby Ravensworth and Kings/Maulds Meaburn.

#### What is Carbon sequestration?

This is the long-term storage of carbon in plants, soils, geological formations, and the ocean. Carbon sequestration occurs both naturally and as a result of human activities and typically refers to the storage of carbon.

Where moorland predominates within the catchment, in the area surrounding the headwaters of the Eden, the area around Haweswater, Ullswater and the headwaters of the Caldew then the vegetation, peat dominant soils and larger wooded areas will all contribute to carbon capture and sequestration.

However, where arable farming predominates or where there are intensive dairy operation then there is a large potential for carbon to be released from ground which is being ploughed up as part of a rotation on a regular basis.

# Financial incentives to encourage carbon sequestration

The influence of schemes such as Countryside Stewardship and ELM now and in the future will be instrumental in helping to deliver:

- Woodland creation,
- Habitat management,
  Hedgerow planting and management and, in certain areas,
- Changes to grassland management,

that will all help to increase the potential of agricultural and forestry land to capture and retain carbon.

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Impending changes to financial support for farmers may encourage longer-term changes in agricultural practices in areas where carbon is being lost through arable farming and /or rotational ploughing of grassland.

### What about transport infrastructure?

As large tracts of roadside and track side are already given over to tree and scrub cover, and all of the grassland verges are effectively permanent pasture, there is a considerable opportunity to utilise and enhance these areas to capture carbon from vehicle and rolling stock emissions and convert it into valuable growth and stored carbon. A switch to valuing Natural Capital as a means of deriving income from resources on farms may provide future opportunities to those farms close to areas of infrastructure or conurbations where a clear benefit from woodland or permanent pasture can be identified in terms of their ability to capture and store carbon from emissions.

Major road infrastructure alterations in the catchment, such as the dualling of the A66, will give rise to an opportunity to increase tree and scrub planting along the road corridor.

This will offer valuable benefits to wildlife and enhance the landscape whilst capturing emissions and storing carbon ... and will contribute to Natural Capital.



**Find out more:** Our next Natural Capital workshop is on 5th February Contact Andy to book your place

## **New members welcome!**

If you know of anyone who farms in the Leith/Lowther or Petteril areas who might be interested in joining our farmers' groups, please get in touch with us! Call us on 01768 866788.

# That's all for this issue

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If you are interested in exploring ways that you can bring water-friendly farming onto your farm, or would like some advice about potential funds and grants that you can apply for then please get in touch with us.

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The European Agricultural Fund for Rural Development: Europe investing in rural areas. This project has received European Union funding under the Countryside Stewardship Scheme's Facilitation Fund



