An Introduction to Floodplain Meadows Transcript

19th March 2025

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An Introduction to Floodplain Meadows-20250319_180209-Meeting Recording.mp4

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Emma.Rothero started transcription

Emma.Rothero 0:15

Hi everybody, welcome to the webinar this evening.
We may get a few more people joining in a couple of minutes time, but we might as well make a start if that's OK. Just to note, I have started recording this webinar.
But on that note, I'm going to hand over to David going, who is the director of the Floodplain Meadows Partnership, to start us off. Thank you, David.

David.Gowing 0:39

Thanks, Emma, and good evening, everyone. Welcome to our webinar an introduction to floodplain meadows, which is an initiative that was started by Anglian Water.
And our agenda for this evening.

LO **Lorna Ogle** 0:56

It's very.

David.Gowing 0:57

Is a series of short presentations.

Lorna Ogle 0:59

Weather.

David.Gowing 1:02

By myself, Emma and Elizabeth from flag.

Helped by our colleague Olivia, who will be doing.

Some polling later on there will be a opportunity to ask sort of questions of clarification after each presentation, but then some time at the end to talk about more general issues.

OK, so I'll make a start with my presentation.

So here is the floodplain Meadow, and just to start with some definitions. A Meadow is strictly a grassland that is cut for hay as against the pasture which is a grassland predominantly grazed.

And a floodplain is an area that's inundated by fluvial flooding from.

Lindsay Hargreaves 2:08

You're muted, David.

Emma.Rothero 2:10

Sorry David, I've accidentally muted everybody. Sorry. Just trying to work out what to do. Yes, we can hear you now. Sorry about that. And you've stopped sharing.

David.Gowing 2:14

OK.

I've.

Really.

Emma.Rothero 2:21

Yeah. Oh, no, it's there. No, it's fine. That's just me.

David.Gowing 2:25

OK, so at what point did I get muted?

Emma.Rothero 2:29

Just start again.

Elizabeth Ranelagh 2:30

We were just describing a floodplain.

David.Gowing 2:33

OK.

So yeah, a Meadow is a grass and cup of hay. A floodplain is an area inundated by river water.

Where those two things coincide, you get this particular plant community.

That is very diverse as we can see on the slide here, a mixture of herbs and grasses.

OK. And these meadows have a very long history that many of the ones that exist today, such as the one shown in this map just outside Huntington, have been.

Documented for 1000 years, in many cases, a lot of them were mentioned in the Doomsday Book, and it's believed that.

Making hay in floodplains commenced with the Roman.

Britain, where they needed hay to.

Keep their horses through the winter.

And some archaeological work has shown that meadows were the dominant land use on floodplains for most of the past thousand years because the rural economy relied on making hay to keep livestock through the winter and not only in Britain, this is a fairly consistent pattern from the West Coast of Ireland.

All the way across the North European plane to the Ural Mountains.

Settlements relied on their local floodplain to produce hay, and the reason why floodplains were chosen is the sediment that's dropped by floods contains a lot of plant nutrients and therefore you can sustain high yields year after year with no inputs. Mediaeval farmers understood that very well.
And therefore reserved for planes for growing hay. And it was, in fact, during the mediaeval period, the most expensive land, if.
Floodplain land changed hands.
It was at a higher price than arable land.
And here is some of the work from the archaeologists. We've been collaborating with looking in this case at the Dorset Star.
The blue areas of the flood plain and the pink areas are known to have been managed as floodplain Meadow, so it's at least half the available area was devoted to these meadows and this is a catchment which currently has no floodplain meadows at all.
And that's been the story of the last 100 years that meadows have gone from being the dominant land use.
There were probably several 100,000 hectares of them throughout the UK now.
There's only just over 1000 hectares, so a 99% loss and the reason for that is with the advent of artificial fertiliser, suddenly the economic importance of floodplain.
Evaporated.
That forage could be grown in any part of the landscape. If you used artificial fertiliser and therefore the unique position of sediment fed floodplains was lost.
So this is the current extent of this particular vegetation type that was once widespread.
You can see there are no examples in Dorset now.
None that we've found in East Anglia, Norfolk, Suffolk, but they do tend to have survived in the Midlands of England and we think that's because

these areas were the last being closed by the Enclosure acts of the 18th and 19th centuries.
And therefore common land survived for longer and in many cases those red dots are still Commons that survived the enclosures.
And.
Like the one just outside Huntington.
They are still managed in common with common grazing and therefore the land use hasn't changed and the Meadow community has survived.
So there are around about 100 sites that still have this community, but their total area is around 1200 hectares. So they're quite small sites and.
That area could in fact be fitted into the boundaries of Heathrow airport, so it really is really is quite a scarce resource now.
From what was once such a widespread.
Land use.
And a particular interesting aspect of these meadows is their soils that are, by definition, alluvial soils that have been composed of sediment dropped by the rivers. They tend to be very deep.
They are complex living structures themselves. What people often don't realise is a well structured soil like this is over 60% by volume space.
Which can either be filled with air or with water.
But when you're walking along across these fields, you're really walking on an an empty sponge, and they're there for very fragile and careful.
Management is crucial because many of the ecosystem services that these meadows provide relies on this well structured soil that underlies them.
For example.
A soil can absorb.
50,000 tonnes of water per hectare. So when a flood occurs it can infiltrate into the soil and be held there. And indeed, during a flood event can be held on the surface as well and that's why these floodplain meadows are so important for flood risk management.

But once in the soil, water can flow laterally through them and those flows can be very significant that it's been estimated in parts of the Thames Valley, Thames Valley.
As much water is flowing.
In the soils and sediments of the valley, as in the channel itself.
So flood risk management is one benefit. They provide another one is carbon storage. So this little graph summarises some work done by our colleague Claire Lawson.
Who has sampled a lot of these meadows?
And other land uses on floodplains and shown that the soils of floodplain meadows contain twice the amount of carbon that an arable on the same soil type in the same floodplain.
Contains.
And so maintaining these meadows is important for.
Carbon storage and restoring them is important for carbon sequestration.
And we think the reason why they're so effective is carbon stores is partly their open structure and partly this vegetation that naturally grows on them, that has very variable rooting structures with some of the herbs rooting more than two metres in depth and having these very diverse communities of up to 40 species per square metre.
Allows almost every pore of the soil to be explored by roots or the fungi associated with the roots.
And because you're getting such a thorough exploration, exploration of the soil.
And it's estimated a third of all the carbon fixed by plants is pumped down to the roots to feed the well the roots themselves. And the fungi that associated with them. A lot of carbon can be stored.
But it's getting it deep.
And we think grasslands are actually more efficient at doing that than trees are. So there are some benefits of having grassland rather than woodland. If you're interested in carbon storage.

OK. And the third service they provide is acting as a nutrient pump to take nutrients such as phosphorus and nitrogen out of the river system and export it to the wider environment in the form of hay. So as I mentioned, the diverse plant community is fed by the nutrients contained in flood deposited sediment.
And this diverse community is very productive. It's possible to get 5 or 6. Tonnes of dry hay per hectare per year, and to sustain that almost indefinitely. And if that is harvested and taken out of the system, it reduces the amount of nutrients leaching back into the river and improves the water quality and therefore the biodiversity of the system downstream.
So I've touched on a few of these services.
These are very biodiversity systems with 40 plant species per square metre, which in turn support a wide range of invertebrates of fungi and of higher taxa that feed on them.
I've mentioned carbon sequestration. They seem to be more effective than other land uses on flat plain. The flood risk management that they can store water and they can tolerate flooding at pretty much any point in the year and quickly bounce back.
Their improvement of water quality by absorbing and exporting nutrients, and alongside that, also trapping the sediments, therefore cleaning up the river further downstream. I've mentioned their productivity.
Which is sustainable with no inputs and then finally I haven't mentioned the cultural and aesthetic values that people simply enjoy walking in these meadows when they're in flower.
And it is possible to restore them, so a couple of shots here of green hay being made and spread. But Emma in the next presentation will describe that in some more detail.
But that's the end of my slides. If there are any immediate questions, I'm happy to answer them.
Otherwise, Olivia will ask you a question. OK, Jane.

Emma.Rothero 14:11

But we have a. That's all right.

JL **Jane Lambourne** 14:15

Can you hear me? Oh, good.

David.Gowing 14:16

Yes.

JL **Jane Lambourne** 14:19

You're talking very much about Meadows as opposed to permanent pasture.

David.Gowing 14:25

Yes.

JL **Jane Lambourne** 14:26

If you have permanent pasture.

Presumably that's still.

Providing a better.

Carbon sink carbon storage than arable.

Would it be or is it purely depend on your sward? Mix on what's growing there.

David.Gowing 14:49

It depends in part on what's growing there, but I think you're right. I'm trying to remember Claire's results in detail. I'm fairly sure that yes, permanent grassland.

Is a better common store than arable land? I mean it's tilling the soil that loses the carbon.

So any system that's not ploughed is likely to be a better store than than one that is.
But.
See. Yeah, I think the other issue is the structure of the soil, which.
Meadows tend to have very well structured soils and I think pastures are slightly more risk of having livestock on them more of the year in that.
There's more risk of compaction, but I mean that again depends on how the the pasture is managed. Probably low intensity, parched.
May have similar carbon stores as a Meadow.

Jane Lambourne 15:57
But sorry, I'm hogging another question.
Presumably if you're not taking the grass off as hay.
You're not removing enough of the nutrients that are being deposited by the flooding.


David.Gowing 16:12
Yeah, that, that, that is the case. And and we've found with nutrient measurements that passages on floodplains tend to be more nutrient rich because as you say, if they're being grazed.

Jane Lambourne 16:13
Yeah.


David.Gowing 16:27
The nutrients that are taken in one end of the animal tend to mainly fall out the other end and therefore there's no net ex or less net export than a hey medie.

Jane Lambourne 16:40
Yeah. Thank you.

Emma.Rothero 16:43

Meant in the chat from Louise, who says a good example is likely portmeadow in Oxford.

David.Gowing 16:51

There are some nice examples in Oxford just to the north of Pork Meadow is Pixie Mead and Ynton Mead that are very old, traditionally managed meadows that are have very good examples of this vegetation. Pork Meadow. Confusingly, although it's called a Meadow, is a pasture that they haven't made hay on Port Meadow for.

A very long time.

So.

Pork Meadow has very interesting vegetation and just as Jane was discussing there.

You can have interest in biodiversity in the pasture, but it's it's not a Meadow and so it doesn't perform all these services that we've been discussing. But there are a string of meadows just north of Oxford that do do all of these things.

Emma.Rothero 17:49

Nicholas got her hand up.

PN **Pazdzierska, Nicola** 17:51

Yeah, I was just wondering, excuse me in the situation where we've had perpetual rain for two years on the meadows been underwater for, for for a good part of it, it's it's really hard to know how to take the nutrient enrichment off either through grazing or or through mowing. And I just wondered what you, your views were on that or what thought you had?

David.Gowing 18:13

Yeah. I mean, these meadows of the vegetation is very resilient to unpredictable hydrological regimes. So some years are very dry, some are wet. And you're right, occasionally. And we've just had a very wet spell that the soil is too wet to bear the weight of machinery. And therefore it's difficult, if not impossible, to take a hay crop.
And I think it's important not even to try when the soil is that wet that.
Ideally you want to remove hay every year to keep the nutrients in balance, but.
If a particular year is just too wet, then it's better to leave the hay unmade.
Possibly turn livestock out into it later in the season if if it dries up enough to bear their weight.
So yeah, we've had these sorts of discussions with Natural England and.
Other conservation groups.
Saying in Agri environmental schemes, there should always be derogations for managers not to have to make hay in very wet years because it's very easy to do more damage than good.
So going back to the soil slide that if that profile is wet and the farmer feels obliged to go on with machinery to extract the hay, and particularly the hay trailers, have very high axle loads.
You can do a lot of damage and it can take decades to restore the structure, so when it is very wet, better to not attempt hey making and graze if you can.

Pazdzierska, Nicola 20:02
Thank you.

Emma.Rothero 20:08
Is there a poll coming?
Thank Olivia.

Olivia.Nelson 20:11

There is yes to the first poll. It will I'll I'll press launch and it should come up and chat.
If you don't mean that you can't get onto it, and this is asking you which of these sort of areas of of services, that flood ploy meadows provide you'd like to hear more about?
So if I launch it.
And let us know if there's an issue.
I should come up and chat.

Emma.Rothero 21:20

Well, people are answering that question. Shall I put should we stop sharing from your end, David, and start sharing from?
From here.
We'll move on to the next session.
Is that sharing?

David.Gowing 21:54

Yep.

Olivia.Nelson 21:54

Yeah.

Emma.Rothero 21:55

You can. OK. All right. Shall I? Shall I move on then? Thank you, everybody, for having a look at our first poll of the evening. There will be a couple more in a bit. So a little bit. David's giving you a bit of background about floodplain meadows and some of the nature based solutions they provide. I'm here to talk a little bit about the Floodplain Meadows partnership and then a little bit about restoring floodplain meadows. So the Floodplain Meadows Partnership is based at the Open University it was set up in 2006 by a group of grassland academics studying floodplain meadows.

And we've been funded by a range of organisations since 2008 to support a small core team, but we're steered by the group of organisations whose logos are on the right hand side.
Throughout the oh, I don't know, 17 years or so that we've been in existence. We've trained a group of what we call floodplain meadows ambassadors in our scientific methods, who are based around the country and are now familiar with our findings and are able to share their knowledge and give advice within their own counties. So we should be able to direct you to them. If we can't help you with any advice.
And so we have a steering group, we have our ambassadors, and we have our small core team and we have a solid academic foundation through the Open University and the REACH to share our information to the people who may find it useful. And we find this reach and kind of the way that we engage with lots of different types of organisations and individuals. Very useful because it helps us to understand how how we can focus our research on emerging needs of people.
Outside of the academic sector.
How do we do it? Well, obviously we're based and rooted in research. We started in 1992 studying the eco hydrology and plant communities of floodplain meadows, techniques for their management and restoration, and most recently, soil carbon storage. We also undertake survey work including long term monitoring of key sites to look at vegetation change over time. We take undertake surveys to establish a baseline ahead of restoration activity and monitoring success afterwards.
And more recently, we've also undertaken large scale rapid assessment of grassland quality.
Cross catchments to inform landscape scale recovery projects this long term monitoring and survey work feeds into advice to people on sites about how to manage and restore meadows and we have a whole load of kind of outreach materials through our website and our technical handbook which is free to download, webinars and workshops and so on.

We get involved in quite a lot of different types of outreach activity, so working with community projects and art projects, looking at historic research, working with local Meadow groups and every three years we run a conference.
So our last one was in 2023.
All of this then feeds to Olivia, who has launched our poll this evening. Who is our advocacy manager, and she works, or tries to work as closely as she can with statutory environmental bodies and with government to try and feed in the needs of floodplain meadows into relevant policy. And, of course, a major recent success is the floodplain Meadow, a new floodplain Meadow option in higher tier in England with death row, which Elizabeth will talk a little bit more about later.
We've historically worked primarily in England, but we have expanded our work into Wales and Scotland in the last few years as well.
So how do you restore a floodplain Meadow? Well, as a basic approach, if a field is in the floodplain and can have an annual hay cut, then it's worth thinking about restoring to a more species rich system. However, there are some physical aspects of the site that should be investigated beforehand to make sure that you are efficient with your time and your funds, so this is a site in Hereford right in the city that's had a very.
Chequered recent past and the Community group locally are very keen. Restore it to something more species rich.
So whilst being in a floodplain and having a hay cut is a very important part of the process, you need to understand a little bit about the physical restrictions that your site may may have. So the first thing to find out is your soil fertility and particularly phosphorus levels, because this will hugely affect restoration success if not managed appropriately. High phosphorus levels favour competitive grasses, so ideally you want soil to be between between.
Nought and two on the phosphorus index.
Scale if phosphorus levels are higher than that, then it's best to spend

some time reducing them before attempting to reintroduce Meadow species.
Your pH needs to be more than about 5.5 because otherwise the soil will be too acidic to support the range of species that we're looking at.
You need to think about your soil structure. It's very important. Wet soils have a high risk of compaction and if the soil is compacted it will be very hard to restore a species rich Meadow. The soil will either need a long time to recover or some expensive intervention. So on sites that sites that do have extensive compaction, it's worth considering other habitat options.
And finally, your flood regime and drainage. So this is a picture of the lugmeadows in Herefordshire, and you can see towards the top end, there's a sort of a herring bone pattern of drains that traditionally covered a lot of floodplain meadows because farmers knew that they needed to keep the soils aerated into the spring and summer to get the best yield.
And the best diversity out of the sites in terms of frequency of flooding. Ideally the site would flood at least once a decade, but also it needs to be quite free drain.
Obviously, we tend to say so. Surface water isn't sitting around for longer than about 5 days in the growing season. In a typical year, if your site doesn't flood, so you're at the other end of the spectrum like those where the river is disconnected from the floodplain, it may well still be suitable for a species rich Meadow. But a dryer grassland type might be a more realistic target.
What sort of techniques to restore floodplain meadows? Well, there are quite a range.
And choosing the techniques will that are most most appropriate for your site will depend on factors such as what machinery and skills are available as well as the site conditions.
So on summer sites, if the drainage in soil fertility is already within the regime that you'd hope to support a species rich floodplain Meadow, and there are some indicator species in the sward as well, then changing

management to an annual hay cut from permanently grazed maybe all that's needed. And we have seen some quite nice examples of where that's happened. It's been a very cheap and easy process.
However, if you have high phosphorus levels, these will need to be reduced before the site can support species rich vegetation.
For arable sites this can be achieved by growing a catch crop like barley with no inputs for a few years or on permanent grasslands taking 2 hay crops per year with no inputs can quickly reduce nutrient levels. Recent research has shown that cutting twice per year, firstly in the period of active growth in June and then again in September, maximises the compensatory regrowth and removes enough additional nutrients compared to a single cut to be an effective tool.
And this can also be used in established meadows to help nutrient control, if it's if it's needed.
If you have issues with drainage, then this may also need to be addressed. I'm sure that those of you that manage meadows or fields in the floodplain will already be very familiar with the range of drains or network of grips or foot drains that may be in evidence. So it may be worth investigating these and maintaining them or finding out where they were in the past by looking at old maps and Lidar.
To see if they need reinstating.
Having got your site hopefully into the right soil fertility range and the right drainage regime.
Then you'll probably need to introduce Meadow species from elsewhere. Some people do do what they call a kind of natural regeneration process where they just change management from a pasture to a hay cut and then see what happens. And we have seen some nice examples. Well, we've seen some examples of that, but they tend to be very slow at increasing their species diversity because often there aren't sources.
In the immediate vicinity where you can get a seed from coming in, so most sites you'll need to add seeds. So that's either brush harvested seed

or green hay or commercial seed for example. And then typically you'd scarify the ground to create some bare earth.
The guidance generally says around 30% and then you'd add green hay or seed or whatever your source of propaguls are.
And then straight into your management regime of an annual hay cut the following year.
Plug planting is used on quite a few sites to bring in those species that are hard to grow in restoration fields.
And it's also quite a nice activity for community groups or.
Volunteer teams, so it's quite a nice thing to think about.
Since 2009, we visited quite a lot of restoration sites and actually since 2015 we've started to more kind of comprehensively focus on engaging with people who've done restoration to go and visit their sites and find out what they did and collect some data. And this work was funded by the John Elleman Foundation. When we were on site, we talked to the landowner. We collected some basical basic botanical data, and in some cases, we look at soils as well.
And the map on the right hand side shows you where we've been in that time.
And you can see that we visited over 1000 hectares of restoration fields, which is almost as much of the plant community. Well, there's almost as much of the floodplain Meadow as we've got left at the moment. So there's quite a lot of activity going on, although it's all although, although it's not as species Rich, obviously, as the the ancient meadows.
And we've also had enough time to revisit some of the sites that we visited at the beginning of this work as well and see how they're progressing.
And we've compiled some of the information from the first phase of that.
So between 2015 and 2018.
And to try and have a go at understanding what makes a successful restoration project. So this this graph on the right hand side shows the culmination of 163 restoration site visits covering 20 counties and up 663

hectares and we took all that data and we we thought we'll we'll try and break it up into the different types of land owners. So we chose 4 landowner types so private companies.
Private land owners, public organisations and community groups.
And then we devised a system based on the botanical data that we'd collected to try and allocate a category of restoration success from 1:00 to 5:00, where one is a poor progress with restoration, and five is very good progress with restoration. And then we plotted the two against each other to see if you could see a pattern. And this this is what this graph shows. So private land owners are the orange bars and you can see that.
They private land owners as a group had far more.
Positive outcomes with their restoration projects than the public organisations who are the grey bars who are more likely to have poor progress with their restoration success. And we thought this was really quite an interesting finding.
And we concluded from that work that consistency of management after restoration is probably the key difference between private and public organisations. It's likely to be because private land owners have mostly more ready access to machinery when the hay is at its most productive. And they want to get the best yield from their crop and that also removes the most amount of nutrients from the system and maintains the divert biodiversity, whereas public organisations tend to be at the behest of contractors, they don't have so much control and they may also have other management objectives as well as a good hay crop.
What we did find as well, which I don't have a graph for, but what we did find was that it didn't matter what method you use, whether it was green hay or seed, or plug planting or whatever, that didn't seem to have a bearing on restoration outcome.
Really seems to be what happens after the after the restoration activity has been undertaken.
We have on our website a site assessment tool, so it asks you a series of

simple questions about your site and if you answer those questions it'll take you through a little kind of flow chart and tell you at the end whether you're likely to your site's likely to be suitable. So it's definitely worth looking at if you're thinking about undertaking restoration.
And also through this work with Anglia Water we have developed.
An open learn course on floodplain meadows, which is a a free Open University course. It's based around the six topics listed on the slide. You need about 10 minutes per topic to read it, so it's the lots of little bits of information about those different topics for floodplain meadows, and then a series of questions in Section 7 which would help to guide our research and to let us know what would be most useful for you guys in the future.
So I think that's all I've got to say on restoration.
And the Flippin Meadows Partnership, so I'll stop there. Does anyone have any questions at that point?
Which has got your hand up.

RS **Rich Stearn** 35:18
Hiya. Sorry, I've got kids. I'm feeling the background support of the background noise.
With the, the disposal of the hay that comes off, do you find the land owners can generally find somewhere for that to go.
Like I appreciate his feed, but it is sometimes hard to dispose of large amounts of hay.

 **Emma.Rothero** 35:36
Yes, most of the land owners that we have visited use the hay on their own land or they sell it.
That, I mean, it does vary. It does vary, vary who we talk to. Some people do struggle, but mostly land owners use their own hay or they sell it and some some people that we visited will say, oh, I can't get rid of it. You know, I can't. I can't. I haven't got enough hay to sell. I have so much interest in it. I think

because they've explored the markets.
For it, so it doesn't seem to be a problem for quite a lot of people, but for us some people it does seem to be an issue.
And when you have poor quality hay so that the site that I showed in Hereford, Bartonsham meadows, the first couple of years of that has been not not any use for fodder at all. It's just been docks and thistles. And so the the site manager there has ended up taking it to compost.
Which you know is a is a solution. It's perhaps not your ideal one though.
Mitch also looks like he's typing something.
Does anyone else have a question?
No, in that case, should we move on to Elizabeth, he's going to talk about.
High tier options but please put any other questions in the chat and do get in touch if you want to have someone come and look at your site or find out more I'll just share my screen now Elizabeth again.

ER **Elizabeth Ranelagh** 37:10
Thank you, Emma.
So the main source of of funding for floodplain meadows will be through the Countryside Stewardship Higher tier scheme and there is an action manage species rich floodplain meadows. The code is CGS 18 which will be available for application this summer.
The option was also going to be available in the sustainable farming incentive until this was closed last week.
But higher tier is going ahead, although the date may change.
It's still not clear whether or not the option will be available in SFI when it reopens.
But in higher tier the action is of five years duration and the payment is 1070 lbs per hectare and the aims of it are to maintain or increase flood plain Meadow habitats for biodiversity.
To provide a valuable space for flood water to create potential for carbon capture, as we've heard, and to protect the valued landscapes and

archaeology. And in in applying for this action, it allows you to either manage, restore or create a floodplain Meadow.
So obviously for management you you already need to have a species rich lowland Meadow, a priority habitat.
But for restoration it can be any permanent grassland which has a high or medium potential and for creation it can be from arable.
Fallow land or temporary grassland and again, it needs to be examined to see whether it has high or medium potential. So the the main requirements for the management is that you're aiming at a minimum of 1 frequently occurring.
And three occasionally occurring so-called indicator species.
Which of course, if you've already got a species rich floodplain Meadow Meadow should already be there for the management option.
You need to take an annual cut of hay after mid June and followed by either grazing the aftermath or a second cut.
And you must remove any livestock for at least eight continuous weeks before the haake cut.
And the the water should be allowed to it should be allowed to flood naturally on and off the land from from the river.
Now when applying for restoration or creation, you'll be required to have a soil analysis undertaken within the previous 12 months and which includes available phosphorus using the Olson P test and.
Emma explained the importance of having a low phosphorus.
Index and you will also require a restoration or creation plan, which can be done through higher tier.
Yeah, for a funded implementation plan or a feasibility study.
Now the these are available now in the higher tier capital grants. So looking at those you can use the implementation plan which is code PA one and is valued at 1200 lbs to plan works which are effect either biodiversity, water management, historic environment and climate change of course and floodplain meadows tick all those boxes.

The application form can be downloaded and filled in online.
And what you need to do is to produce a brief for the implementation plan and discuss it with your Natural England advisor, then Commission the plan, make sure it's completed in line with the specification and.
Submit a copy now. That will then under pin a higher tier application, but it doesn't require you to make a higher tier application. If for example your plan that it's perhaps not not a possible option.
For more complex sites which perhaps conclude non standard items and and activities you can apply for a feasibility study that is PA two and will that will give you 100% of the costs of of creating that that plan. So those two things are available now for.
So you can get them ready for when higher tier opens later in the in the summer.
There are other sources of funding potentially look out for local initiatives.
For example, Environment Agency or water companies.
Projects and maybe if you're in a farm cluster, they there could be something that you can find there through private funding.
There is, of course, biodiversity net gain, but that requires a whole webinar on its own.
There may be, in the long run, there may be carbon credits or nutrient neutrality, but currently.
Those are not available for floodplain meadows, although I believe Emma and her team are working hard on that.
So that's so that's your option, so hopefully.
That that opens the door for some people to actually go ahead and restore your meadows. Does anybody have any questions?

Emma.Rothero 43:10

Should we share the last few questions, Olivia, and give people some time to think of any questions?

Olivia.Nelson 43:14

Yeah.

Yeah. So these questions they relate to.

To the the the countryside stewardship pioneer, what we want to do is just get a better idea of who's aware of it, whether it's something that you would want to go for. Obviously, when we talk to Defra.

And Natural England. It helps us to have a bit more evidence, so I'm going to launch them.

There's a number of them and.

Maybe the next one.

We're also asking is if you can, this will be more of a word cloud, but if there's other forms of funding you're looking at, obviously there are some concerns about the budget for farming and whether there'll be enough money and if you're already starting to think about that. So that's another question. And that's for you to actually write down.

And then the last one or we're putting a new one as well because we found out about these implementation plans and whether you're so you have to what Elizabeth has said, thinking that might be something you'd want to be interested in.

And then the last one is just finding out whether there is an interest for you are interested in restoration or management or creation of floodplain meadows, so all been launched they will be in the chat.

And I'm also pleased to put any questions or any comments in the chat as well.

Emma.Rothero 45:01

I can't see any questions in the chat. Olivia Elizabeth, is there anything else we want to?

Say give people time to answer the polls.

Elizabeth Ranelagh 45:13

It might just be of interest to people who are worried about the budget. That's the SFI budget is separate from higher tier budget and the capital grants budgets, they all have their own pot as it were. So the fact that the SFI one has run out doesn't mean that the other two are going to run out and hopefully they'll actually be managing the other two, the higher tier and the capital grants, they'll be managed and rather better than they manage the.

Sfi part.

Olivia.Nelson 45:46

What they've said Deborah has said is they are reconsidering the SFI scheme and it could well be that the floodplain Meadow option will only be available through the Countryside Stewardship higher tier.

Elizabeth Ranelagh 45:52

None.

Yeah.

Olivia.Nelson 46:02

Which seems to fit better anyway and what we always expected it to be with the initial conversations we had with defer about it.

I'm sorry, Kate, that you can't vote. If there's anything you want to add, please do.

Emma.Rothero 46:18

Or you could write your your vote response in the chat if you felt.

Olivia.Nelson 46:21

Yes.

Emma.Rothero 46:23

We'll. We'll still pick it up.

IA **Isabelle Sarginson Allen** 46:31

Can you hear me? Could I ask a question, please?

Emma.Rothero 46:33

Sure. Yes, go ahead.

IA **Isabelle Sarginson Allen** 46:34

So I'm it's Jason Gayton Hardy here. I'm using my partners computer so I'm appearing as Isabelle, but.

I was. It's a fascinating talk. I've not been aware of these options. Our farms are part of existing countryside Stewardship high tier.

Scheme. Is this something we can add into that or would we need to for our current agreement to expire?

ER **Elizabeth Ranelagh** 47:03

It depends on whether you've got an option on your meadows already.

If you have, it's going to be more difficult. I mean, for example, if you put them in low input grass or something.

But it's certainly worth talking to the RPA and talking to your Natural England advisor about it.

IA **Isabelle Sarginson Allen** 47:24

Yeah.

ER **Elizabeth Ranelagh** 47:24

Because.

You know, initially they were saying if if you wanted to do something which

was more valuable in terms of biodiversity.
Then they would consider a change, and so you might be able to get it through higher tier, but if you haven't got any options on the meadows already, then you would definitely be able to just apply for that. That part of the farm.

IA **Isabelle Sarginson Allen** 47:50
Yeah, what's interesting here, I think our blood, the technically flood meadows, they were sort of cropped historically a quite small in area and I hadn't been aware of that history.
Fully in that sliding more into a woodland.
Wood, wooded Parkland option because that there's a patch of mediaeval parked on which fronts on to the flood meadows.
So it's probably a balancing act of seeing what we've committed to already.

ER **Elizabeth Ranelagh** 48:20
Yeah.

IA **Isabelle Sarginson Allen** 48:20
But one other sort of technical question, we did some tests on the soil horizons in the flood meadows.
And they they sort of mimicked what you showed in a slide earlier, but something which we found, which was really curious with the topsoil, which was very deep.
Had really large quantities of broken tiles in it.
And one speculation was that whether it had had night soil added to it historically.
But it's the small fragments, they're flat tiles and it covers.
In our test excavations, it's sort of several acres within the floodplain and it it looks like they must have been added.

And that that was just a just a small question as well, whether in floodplain or flood Meadow management source, whether ever brought in from elsewhere to to add on to them.

Emma.Rothero 49:14
David, if you got any observations about that.

David.Gowing 49:20
Not really. That's a new one on me. I wonder if I mean, occasionally farmyard manure was added to the meadows. If they're gone for a period without a flood and therefore their nutrient pool was being depleted.

Emma.Rothero 49:22
Hmm.

David.Gowing 49:35
But I think it would be unusual to add night soil to meadows that that would normally be reserved for the arable land.
Could could it have been washed down, though? Perhaps there was a dump somewhere upstream that got eroded and the the tiles got carried in the water. I don't know how big they are.
But tiff?

Isabelle Sarginson Allen 49:56
But there's sort of small fragments from a few centimetres to sort of eight or ten and like, sort of several per square metre.

David.Gowing 50:04
OK.

Isabelle Sarginson Allen 50:05

Anyway, it was a it's curious. We found those in the top soil and then subsoil, and then Pete and then glacial sands.
Yeah.

David.Gowing 50:24
40 centimetres, which is is very unusual for other habitats, but I think because of this dense routing, the soils, yeah, developed very well and yeah, it's quite usual to find gravel sands or as you say, sometimes pet at depth, which plays a really important role. Hydrologically it lets river water flow laterally.

Isabelle Sarginson Allen 50:28
Yes.

David.Gowing 50:49
Through the flood plain, which makes these meadows very resilient to drought.
Is that effectively sub irrigated by river water during the summer?

Isabelle Sarginson Allen 51:01
Thank you.

Emma.Rothero 51:09
We've we've done all the polls, Olivia. I think we have, haven't we?

Olivia.Nelson 51:14
So yes, we have. I've also just shared a briefing that we did about the the new option with this was actually just before we we found out about SFI changes. But just in case you're looking for some links.

Emma.Rothero 51:15

Yep.
Thank you. And we will share the slides and assuming this recording has worked, then we'll try and share that as well afterwards. And once the open learn course is finished, it's it is imminent. Then we'll send that round to everybody as well in case you want to to have a go at doing that.
Too, but if anyone's got any more questions, is the last chance to ask them. Otherwise, we'll.
Draw an end, draw it to an end.
That's quite a thing. I can see the typing in the chat. It takes quite a while for it to come through, so we'll just wait a moment.
He's probably just going to say bye.
But anyway, thank you for everybody for thank you everybody for coming.
Oh, we do have a question. Do you have a map of where the historic meadows are?
Depends what catchment you in you're in. We have done some work on some catchments to look at historic extent as as David said, a little bit about and if you go on to our website in fact I'll put a link in the in the chat in a minute then that shows you where we've done that work. So it does depend where you are. There's only 6 catchments in the country War seven where that's been done though. So the chances are it won't be where you are.
So it does depend.

Olivia.Nelson 53:06
Hey good, just shared it.

Emma.Rothero 53:08
River Lea. Why is that? Give me.

ER

Elizabeth Ranelagh 53:11
So Hertfordshire, Essex.

Emma.Rothero 53:13

Yeah. No, no, I'm sorry.

Elizabeth Ranelagh 53:14

If it's that.

Emma.Rothero 53:16

Sorry, Louise, we we don't have any information on floodplain Meadow extent there, historic.

David.Gowing 53:25

But it might be worth saying that tithe maps are quite often available and digitised already by county archives. That would show you if your land was previously made a.

Olivia.Nelson 53:33

Mm hmm.

Emma.Rothero 53:41

Yep.

OK.

Shall we say goodbye? Thank you very much. Please do get in touch if you have any more questions, we'll be happy to talk more. Bye. Bye.

Elizabeth Ranelagh 54:00

Thank you.

Olivia.Nelson 54:01

I think he.

David.Gowing 54:02

Alright.

Emma.Rothero stopped transcription