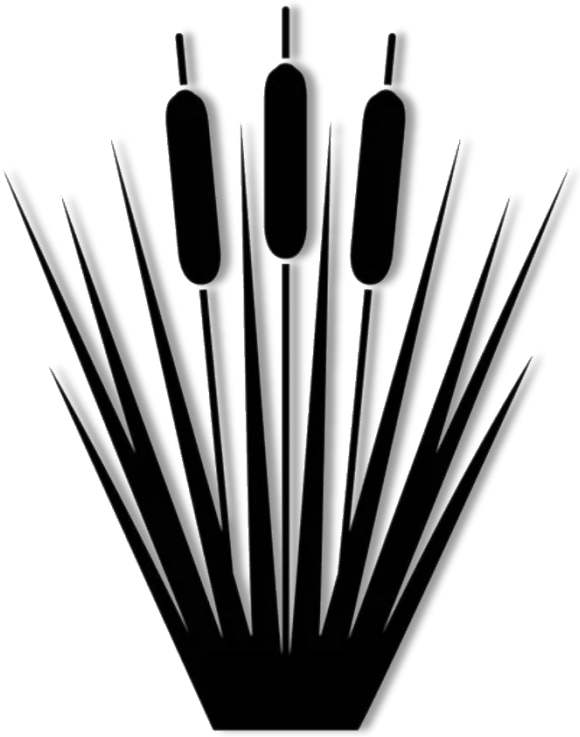
25 - 26 November 2024

Lowland Peat Landscape Forum

Breakout sessions



Thematic Break-out Session

1. How can we deliver holistic water planning (availability, flood risk, quality)?
2. Can we build a reliable hydrological model to support the planning and delivery of projects?
3. How can we streamline consents?
4. How can capacity be enhanced at the local level to ensure that communities and stakeholders have the skills, resources, and agency to engage meaningfully in policy-making and implementation?
5. Exploring Landscape Recovery in practice
6. How can we create cross-policy integration to support action?

A. What are the operational constraints to water level management at varying scales - field, farm, drainage district, river basin?
B. How can we achieve multiple land use demands ensuring socio-economic & cultural contexts are taken into account in each lowland peat area?
C. What guidance is needed to support adoption of SW17 & SW18 ?
Discussions also covered rewetting in the context of Landscape Recovery
D. Are there ways to actually unlock & stack funding options, including green finance for lowland peatlands?
E. Do we need regional hubs to link growers, funders, business, product developers for paludi-crops?
F. What mechanisms (from other sectors) can we use to build better ways of sharing evidence from science and practice?
G. Recognising that current government funding for peat is centred on Net Zero outcomes, where should the government be focussing its resources for maximum impact?

Thematic Break-out Session 1.

How can we deliver holistic water planning (availability, flood risk, quality)?

The questions raised in advance that were grouped here included:

- Water resources - availability, planning, negotiating the rules and regs.
- Can we create integrated regulation that better supports targeted water level management?
- How can IDBs better inform and encourage land managers of both the opportunities and hazards of raised water levels?
- In some parts of the country agricultural drought is not unknown and suggests there is already a shortage of water, which will only prove to be a bigger challenge as we encourage wetter farming initiatives.

The group worked together to share thoughts and, as appropriate, develop an outline proposal that could address the issue. The framework below provided a suggested starting point, but notes were taken within a free-text document. They are provided here to help

Identify the key aspects of that need to be covered by integrated water resource planning for lowland peatlands.
Identify the organisations, rules and regulations that govern each.

Share your experiences of situations in which integration has been achieved, even if only in part. What enabled this to happen?

- Future Fens Integrated Adaptation was started by the water company. This concept gets a wide variety of people round the table to talk about how we adapt water resource management within the landscape. Although they aren't necessarily joined up.

Identify what steps are needed to make this more common (or even the norm).

- Three stages, identifying a problem, finding the solution and delivering the solutions, there are too many groups identifying problems not developing or delivering plans. Perhaps we need more local solutions. There isn't the time to wait for regional groups to deliver the answer.

Feel free to go off at a tangent - but try and add notes to help readers of these notes later follow what you mean and perhaps suggest other solutions.

Notes from the chat

Regional water resource managements are already in existence, and they should be considering the confluence of all of these.

Long term flood management strategy building and can't be looked at in isolation – in the Fens this may be a crowded space, it can be confusing to know where to put your energy. At least 6 different fenland groups operating which aren't joined up.

Three stages, identifying a problem, finding the solution and delivering the solutions, there are too many groups identifying problems not developing or delivering plans. Perhaps we need more local solutions. There isn't the time to wait for regional groups to deliver the answer.

There should be more link up between rural/urban flood management plans.

Aquifers are being depleted and now house building is being limited until the reservoirs fill up, this is reliant on the development of other reservoirs and infrastructure. More reservoirs need to be built locally, and the EA are now doing a study on this in Cambridgeshire. This is a local

solution that needs to be replicated more widely.

Small reservoirs can also add to flood management, these could be added into local plans, this would divert the water abstraction in the summer especially if restricted to refilling only in the winter. The issue with this is that current funding for CS is based on treasury rules on income foregone so there isn't the money to pay for capital investment. The biggest treasury blocker is capital budgets.

The planning system also has a lot of barriers to creating reservoirs. 3 years is the average time to get a reservoir through planning, there are lots of surveys that have to be done in advance. The EA won't consent to winter fill. Reservoir act rules are being applied to small scale reservoirs making it difficult to build them.

A separate fast track approval process for a farm reservoir set up as a short term (3-year scheme) provides an opportunity to leap forwards. The house builders may pay for this. The storage needs to be multiyear storage so that three years of wet weather followed by three years of drought doesn't lead to reduced food supply.

Natural flood management is also subject to difficult regulation.

There are catchment management partnerships mainly focused on water quality; they should be led to also think about water quantity but build on existing frameworks.

Nutrient neutrality solutions could encompass more water neutrality. Farmers could grow sphagnum in the uplands, they should be paid by water companies etc. for reduced flood risk and cleaning. It then saves them money in the long run.

Low uncertainty margins in the regulation needs to be more outcome based rather than very prescriptive which reduces innovation.

Stop pumping so much water out and then not having enough later, we need a vision/solution paper for this. Making clear there is a range of options from re meandering river to reservoir.

Perhaps we need a new term for reservoirs, on farm water storage. Reservoirs could have conditions on them e.g. they need to have something that improves water quality along the way e.g. a reed or Typha bed.

With upland areas we need to focus in reducing flashy flows to maintain more constant water supplies and the need for reservoir is less.

Concerns around water quality, flood water will not be allowed into public reservoirs, but this water should be used in farming and paludiculture.

Dig out every farm pond in Norfolk and Suffolk, these could be better connected to the water system.

Water resources management is based on historical data too much rather than forecast or the realities of climate change.

Upland peat restoration has no planning blockers to the same extent that similar actions in the lowlands have. Perhaps make it clear with the local planning authorities as to why this shouldn't be a planning matter or issue – the argument being it restores something in the past. Landscape recovery initiatives are too tied up in permissions, consultants and lawyers rather than trying to recover landscapes.

The hold ups are not conducive to the pace at which emissions need to be reduced, this could be the argument for expediting the process. There have been successful projects about reservoir building on farms in the past, this could be used as examples but also evidence for these processes.

Thematic Break-out Session 2.

Can we build a reliable hydrological model to support the planning and delivery of projects?

The questions raised in advance that were grouped here included:

- Need better understanding of hydrology and the functioning of lowland peat bogs.
- What is an appropriate level of survey detail for ditches, drains and lodes in low lying peatland, such that the resultant hydrological model and flood risk assessment is OK for decision making? There appears to be a lack of guidance relevant to peatlands and peat soil.
- What baseline data are needed? We may need to develop robust, replicable methods to obtain these data in consistent format to the required level of detail
- How can we take account of the rate of drainage and raising water tables in response to high rainfall events

The group worked together to share thoughts and, as appropriate, develop an outline proposal that could address the issue. The framework below provided a suggested starting point, the notes taken within the workshop have been linked into this framework and provided as free-text notes. They are provided here to help take work in this area forward.

Is the understanding of the hydrology and the functioning of lowland peat bogs sufficient to enable a model to be developed for use by practitioners?

Are the data for calibration available?

How much would a general model need to be made bespoke by use of local input data? Could this be cost effective?

What should the next steps be?

Notes from the chat

Models are simplified representation for a purpose.

What is the actual thing they aim to achieve? Need to understand the system well enough to know what can be simplified to allow a model to work well?

Could models answer the wider questions that landowners have – for example maintaining water levels in the summer?

Models can be built to influence interventions – created for information. One model won't answer all questions. Need to understand what models were established to do – so that they can be modified to answer specific questions.

Every model is site specific. Local knowledge is needed for everyone. Baseline data is very site specific.

Can there be an option for landowners to submit baseline data? Feasibility surveys are part of applications.

Huge reluctance to share data – due to commercial sensitivity; data ownership issues and payments need to be a key part of any solution.

Temptation to create models with very limited data where there is only such a short period of time to take action. Such models are perceived to be correct. What if we just use knowledge and experience instead?

There isn't one size that fits all. There are a range of different models and different ways of classifying them.

Does every model have to be built from scratch? No but it may need to be specifically adapted to the question

- How much water is needed to saturate an area of land? In trying to answer this question we had to attempt an approach in our location? Would have preferred to start with some examples and adapt them?

Can we have targets around modelling – to clarify what is good data?

Could data build standards be shared? For example, from EA AQ modelling – AQMAU? What standards does the EA work to?

Validation of models? We often don't have enough data to validate models. So, we use dummy data to create test scenarios. Climate change is creating increasing variability in scenarios.

Do we want people to keep updating models? Ideally

Is there a common storage location for model information? No

Is there a skills gap

- in terms of developing models? Yes.
- in terms of how models are used in practice? Yes.

Are we over reliant on models? Yes and No. Training of students is clear that models are wrong – so it is important to not leap to assumptions.

Care must be taken with consultants. They need to understand the known issues and unknowns and be flexible with modelling approaches. Otherwise, the model build can be biased from the first steps of implementation.

Could a range of questions be prepared to allow customers to be aware of the questions to list as part of the process. Range of service standards to suit different scenarios?

Current experience of models for planning in lowland peat projects

Three levels – 30 IDB's plus private boards, 3 pumped systems – Often individual drainage boards don't know how much water they pump, just when pumps are used

Peat shrunk so much that it is perched. 3D modelling is now required – not just 2D.

Environment Agency models for drainage do not consider groundwater

Do models account for the additional issues around flooding that can occur?

In the Broads – tension between with understanding the flows to /from the large aquifer - EA GW models say lots of GW going into Peat – but not actually known. So, this uncertainty has to be managed.

It can take 18 months to get the output of a hydrological models to inform a project plan.

Flood Risk Assessment, using a 2D model – 12 weeks. Existing data on land surfaces is often not suitable as the levels are dropping at 3cm per year - so new data is required. How can we get to the end point more quickly?

If 'water' was changed to 'contaminant' then models, would alter significantly, as we would examine the system using a Source-Pathway-Receptor style analysis.

In practice, water level management can be excellent when pipes are in place at 5m spacing – which fits models – but is this what is really wanted across fields on Peat. What about all the

env impacts from peat, from installing this kind of infrastructure?

Some systems – even after 10 years, can still not be responding. It can take 3 years for the water to stabilize.

Are there knowledge gaps?

- Sub-surface hydrology and characterisation is missing. Lots of decisions are based on surface hydrology – but the local knowledge for certain fields is essential. We know it is site-specific.
- There are many data gaps – channels, connectivity of channels, assets, levels, missed connections, culverts, changes on the ground
- What impact will re-wetting have on the march to NetZero. GHG emission differences are being spotted.
- Poor classification for Peat – creates increasing uncertainties.
- Treating Peat as a single entity is not appropriate. There are five soil types – but only one for Peat.
- Experience shows that the anthropogenic activity level on Peat – heavily influences its hydraulic properties,
- We know of fields where the farmer knows from experience not to drive tractors after rain etc.
- We MUST listen to the local knowledge and experience. But we also know that this type of complexity cannot be put into a model easily.
- Must always assume that the model is wrong and needs to be adapted to local knowledge – but at least it offers a good starting point.
- All peat systems have variable water hydrological systems. So, we need to know the tolerance we are after?
- Paludiculture can trigger nutrient issues too – can these be modelled?

Thematic Break-out Session 3.

How can we streamline consents?

The EoI questions grouped here included:

- Planning, consents and protected species are the main hurdles that prevent progress in the short term and within the lifetime of most projects. The sheer number of consents needed must be reduced to ensure progress is made.
- Can we simplify and speed up the lowland peat restoration restoration process - especially EA systems/permits
- Can we find ways to cut down on repetition and laborious form filling across many different organisations all trying to achieve the same outcome, very often resulting in missed deadlines.
- Can we establish consistency of information requirements between local / regional / national consenting bodies to avoid the delay of implementation of changes in water level management whether at large or small scale
- Need to review what is needed for protected species licenses - ideally need to abolish the need for Badger, Water vole and Great Crested newt licenses in peatland restoration schemes
- Can a one-stop-shop approach be developed where we can submit an application to one authority which automatically actions this consent with other organisations.

The idea was to discuss frustrations with the current processes, but only for a short time. But also, to look for possible solutions

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What permits and consents are needed currently; why and from whom?

A water abstraction licence with a purpose of spray or trickle irrigation can be used for the purpose of peat re-wetting as long as all other conditions on the licence are met.

Consents that may be needed include

- Flood Risk Activity Permit (FRAP) from the EA if work is on or near a main river - see checklist linked below
- Water Resource Impoundment, Full Abstraction or Transfer Licence from the EA - see checklist linked below
- Ordinary watercourse - land drainage consent
- Internal Drainage Board - land drainage consent and byelaws
- Waste Permit
- Felling licence
- Deforestation EIA
- Afforestation EIA
- Tree preservation order
- EIA Agriculture Screening Decision
- SSSI consent
- EU Habitats Regulations appraisal
- Species licensing

- Heritage - Scheduled Monument consent
- Public access
- Planning Permission
- Flood Risk Assessment may be required as part of planning permission
- Land rights/permissions

Please see Checklist below for further guidance or feel free to contact Joanna Dumbrell on joanne.dumbrell@environment-agency.gov.uk

Peatlands Water Resource Application Checklist

Discussion considered whether there might be ways to simplify these processes.

Thematic Break-out Session 4.
How can capacity be enhanced at the local level to ensure that communities and stakeholders have the skills, resources, and agency to engage meaningfully in policymaking and implementation?

The questions raised in advance that were grouped here included:

- How to engage communities, including engagement of children and young people in their future landscapes
- How to coordinate and secure agreement to raise water table depth in landscapes with multiple landowners.
- What are the motivations/incentives required achieving such change. Looking at options both in terms of what is currently available (eg via ELMs and other gov grants), are they working or do they need to change and what other/new approaches are there.
- What are the barriers to farmer engagement and participation?
- What are the best approaches to educate and influence a change in mindset across a community of farmers, land managers and other stakeholders at a local level.
- Knowledge Integration: How can diverse forms of knowledge, including local knowledge systems, be effectively integrated into peatland restoration and management practices?

The group worked together to share thoughts about what has worked in practice, as well as what socio-technical approaches might be used to support change. The framework below provided a suggested starting point, the notes taken within the workshop have been linked into this framework and provided as free-text notes. They are provided here to help take work in this area forward.

Share thoughts about what makes change possible at the local level based on your experiences

- Long term funding needed - need to build relationships before and especially important to engage with people from the local community
- Community and stakeholders don't have the same goal - there are tensions
    - Need to have better communication, not necessarily care about the different motivations of different people
- When conversations are about raising water tables, there are questions about flood risk - so need to engage with community
- Need to contextualize why the peat problem is important, to the whole landscape too
    - Need to hook people through different ways - might not just be about net zero
- Lowland peat management sits within a lot of different contexts – conversations may need to cover a wider scale and discuss how the systems need to change
- Need to have conversations with more people - but is it hard to do so because we don't have a shared vision yet
    - Having a support network that wants to get engaged to create the vision is important and can enable public support
- People have survey and consultation fatigue - therefore important the ENGOs have a common plan for engagement the same message in the area

What has worked well in engaging land managers:

- Being more holistic (for example opportunity mapping) and having a tangible conversation

(not just about what ifs like the paludiculture market)

- Demonstration- having something to show people, and farmers are more practical they want to touch and see things, farmers don't want to sit and listen to a presentation

Barriers to engaging land managers:

- Farmers are engaged to a degree but any actions needs to be good for their bottom line
- There is nothing to tell the farmers right now on what tangible things they can do
- It looks like farmers can get more money SFI from species-rich hay and meadows than rewetting peat - so how to convince farmers
- Instead of getting farmers in a room to discuss options; a better option might be to have advisors that can give more one-on-one advice?
- Hard that it is slanted that the main input is coming from NGOs

In the future/what we need:

- Need for training for farmers / facilitators / schools / agronomists / farm advisors
- Have Basis points for farmers when they attend a workshop / demonstration or pay them, need to recognize that farmers are consultants on projects
- Get in touch with farmer groups and ask for them to then give advice for other farmers
- Low-level long-term engagement - having a newsletter they read, etc. then contact farmer directly - go through word of mouth and create momentum

- Do we need to engage schools more? Communities? Important not to just focus on farmers
    - People need to understand what is happening around on the land, communication is place-based
- Funding may come from other sources, art funding, local councils, news stories

Thematic Break-out Session 5.

Exploring Landscape Recovery in practice

The questions raised in advance that were grouped here included:

- Given fragmented land ownership across a whole bog/catchment, what approaches work well to create co-action that optimises the scale and scope of restoration of lowland peatlands.
- Share thoughts and feedback on the application process, the active monitoring process and claims
- What criteria, standards, peat codes, technical and financial support is there for LR projects
- How can LR projects be enabled to co-ordinate more efficiently/effectively to delivery activities that require multi-agency input (inc Defra, EA, NE & Local Planning Authorities)

Share thoughts that develop the discussions after the plenary session.

Don't reinvent – be iterative. There will be lots of repetition, lots of pre-work, assurance, then you need momentum. Momentum means that in season 1 you do baseline work for year 2. It's better to build up well, even if that means working more slowly than hoped.

The pre-application phase is tricky

- Pre-application; paperwork is a problem. To date, this has often been led by charities who are managing and funding – RSPB/Wildlife Trusts have a limit of capacity.
- Projects do need a key lead person to pull together. FWAG has a facilitation payment, where the focus is on getting a good plan, sharing it via a hub with case studies, that can then expand and grow. They have invested in advance on how it'll work
- This phase can identify key local issues. e.g. land not on Land Registry. Each is a very separate issue and needs specific action. This goes back to effective preparation, as well as financial incentivisation.

There are issues about bringing a group of land managers and a contiguous block of land together

- LR round 1, had a max. hectarage that could be considered versus LR round 2 no upper limit.
- Planning in advance is essential so there is a meaningful cluster of farmers. When compulsion isn't on table, must throw everything at it.
- Various approaches and feelings- from complete blood-mindedness through to scare of unknown through to just cannot be bothered. Therefore, need mechanisms to facilitate.
- Always going to be a farmer who says no, get rid of penalties for one farmers who refuse to take part
- Very fragmented ownership - e.g. Ouse Washes, where biggest block is 50 ha. Hence feasibility of creating blocks for wetlands is difficult. Conversations to be had going forwards about capital going forwards to buy; or costings for those blocks of lands. Not a lot of time.
- Concern about whether neighbours will come in or sell blocks of land in the future. If they do sell, it is unlikely to be to wildlife pros. This could completely scupper the LR.

Issues around a group delivery model

- LR advantages – flexibility, bespokeness are also its drawbacks, unknowns.
- Groups of farmers can be a support network or can be a drawback.
- When credits/payments come in, these have to be shared, essential to plan well ahead and create a model of how to plan / collaborate. Understand what happens when some farms are ahead / doing stuff, and then needing to share with farmers who aren't already.

Are there payments for farmers giving time – or inputs?

- Harper Adams says invest in time.
- Humberhead Levels steering group says also not paid for taking part, should be more than just farmers.
- FWAG - deal on case-by-case basis. Often unclaimed. For LR where it is in their own interests, perhaps unfair to be paid.
- LR 1 had a pot of money unclaimed for farmers taking time; some feel morally opposed to taking this money

Is there a portal of where to go for info?

- Pilots are on gov.uk
- But centralisation of planning can also be a drawback, need bespoke advice.
- Defra and NE need to learn from what went well and less well in the NCF fund – it is essential that Defra and NE are prepared and staffed appropriately.
- Also, essential that certainty and continuity is in place otherwise this rapidly disengages farmers.

Thematic Break-out Session 6.

How can we create cross-policy integration to support action?

The questions raised in advance that are grouped here show concerns about particular policies and/or places where policies don't seem to work well together. These included:

- How can we align the planning process/authorities better to recognise the importance and to support restoration of lowland peat.
- How can local authorities and government work most effectively together on land use change in lowland peat areas.
- How to address the gap between Government aspiration and the legislation to enable Planning Authorities to take action to stop extraction
- How will the prioritisation work in practice to allow the local voice alongside national priorities for lowland peat?
- What are the links between peatland restoration and the Land Use Framework? Will the LUF give a clear mechanism for balancing the competing priorities.
- Where lowland peat has been lost, due to drainage, can these areas form the basis for creating peatlands of the future - if so how/ who pays?
- How can better mechanisms be developed to support land-sharing strategies in support of biodiversity.
- Will ELMs ever deliver the required amount of peatland restoration? (ie will they be fit for purpose, will there be enough uptake, will land in suitable schemes deliver the outcomes and if YES to all, is there enough funding to reach the targets?)
- Because of the way agri-environment schemes are developed (income foregone, current land use starting point, etc) there is a constant tension between, trying to properly incentivise shift from intensive agricultural use of lowland peat to sustainable environmental management, and this not then providing an unintended incentive to inappropriately manage already non-intensive peatlands.
- How can we demonstrate the success of the Paludiculture Exploration Fund (LAPWDP etc)? How can we best share learning with/from Wales, Scotland and Northern Ireland, as well as more widely internationally.

A targeted review of the National Planning Policy Framework - at a national level – understanding current issues and trying to get better protection for peat. This brings different teams together to strengthen planning guidance for the environment. MHCLG NE took them out on a visit as a way of sharing learning and getting involved.

Local authorities have a role in influencing this. For example, Somerset with dated language on the licenses for peat extraction means that some of these extraction sites now sit as empty clay pits but count as 'restored'. There is currently no money or policy framework to stop extraction.

Accidental peat damage isn't covered anywhere in legislation

Lots of positives from the work to create the new FCP CS options - direction of travel is good. Here the focus is less about telling farmers what to do and more about providing them with an option, all peat is not the same and it is good to provide a menu of options. Consultation on the actions has been approached positively.

The higher ambition agri-env schemes (HLS and CS) delivered more than their entry level counterparts. What worked well in the past was access to advice on delivery and access to the

schemes. These tools are good, but they need to be set up for success.

Local Nature Recovery Strategies have managed to deliver a range of engagement processes. They have engaged with farmers with an approach of going to them and going where they feel comfortable. The focus has been on enabling workshops for local perspectives. This helps with understanding top-down priorities to allow the bottom-up conversations to reflect on that and the impacts for them

Good conversations on incentives and the associated funding, but there is much less engagement on regulation? An example of where lack of consultation can lead to problems is the Farming Rules for Water – was this legislation fact checked to ensure it would be feasible?

The emerging Land-Use Framework should give principles around prioritisation

We also need to ensure there is join up between different but related approaches – e.g. National Framework for Water Resources, Water Resource Management Plans, Flood Risk Strategies - all need to consider and include the potential interaction with peatlands - both restoration and sustainable management of peatland soils. By quantifying the benefits this may also open up other funding options. These options can potentially work with ELMS or be used as an alternative in some cases.

How does the community want to engage? - consultation is great when it is open, this isn't always an option e.g. closed questions may lead to unmeaningful outcomes

Farmers are unrepresented in these policy development forums. Community engagement is often largely with those who are retired. Attendance can be difficult for anyone with a day job (that doesn't pay for them to be there) - how do we provide a balanced perspective and not just one coming from environmental interests.

Language can be a big barrier - different understanding around meanings e.g. cultivate

May need a national working body looking at the gaps from a peat perspective. It is impossible to deliver the action plan without a framework that sets out the interests of peat. Where are the gaps in current peat policy and legislation?

- Every local authority has a mineral plan – how do we best engage with this?
- Need to be able to have a framework that allows flex in the policies to apply them at a local level

Thematic Break-out Session A.

What are the operational constraints to water level management at varying scales - field, farm, drainage district, river basin?

The questions raised in advance that were grouped here included:

- Lots of notes that Water and Water Level Management was a key knowledge gap
- How can we better integrate water level management in lowland peatland areas at varying scales - field, farm, drainage district, river basin?
- Specifics around techniques to maintain more stable water table in lowland peat.
- Which water management infrastructure works best where?
- Can we overcome water supply issues to maintain high water levels during low rainfall periods
- Is the policy framework right to support investment and regulation of water storage, management and control to support lowland peatland restoration

The idea is to be practically focussed and to think at a range of scales. The framework below is a suggested starting point, but it's a free-text document, so do whatever you think works best for you all.

Operational constraints at field scale

- Need volunteers to bund fields to hold water as alternative to reservoirs where they are impractical / no hinterland
- Fields are not level and have widely spaced drainage systems – this would be a significant investment cost to change.

Operational constraints at farm scale

- Grants for water storage at the moment are only for high-value food production
- An example is that when the Great Fen fields are full and there's a rainfall event, the water just runs off even faster than before
- **Pay farmers to hold and provide water (see EA-funded feasibility study happening in Cambridge)**
- Abstraction - could flexible licences be introduced, where you pay an amount (to cover costs of decision-making/admin at EA) to part of a flexible abstractors scheme where you can get quickly greenlit to fill your reservoir in times of excess (much like excess electricity schemes)
- Could someone be funded to do a case study of a small farm, looking at rainfall and flood events, how a reservoir helps? Come up with advice and solutions? Prove to government it's not a big Land-use change?
- **DO we need a new term for small water storage that isn't "reservoir" to help distinguish?**

Operational constraints at drainage district scale

- Need funding that enables multi-use reservoirs
- Many IDB assets really, really old. Need new infrastructure.
- Until the pumps are better, residents will be afraid of holding more water
- Is there a need for an emergency response system like in the Netherlands? Would this

placate residents? - but again, it would cost money and return us to the infrastructure questions.

- Need smaller-scale, cell-by-cell infrastructure, but this is expensive.
- Small reservoirs and tiering could be a good model - reservoirs at top of catchment
- IDBs are going to have to be allowed to charge for water management (and abstraction? Don't currently get a penny for either) - local councils pay IDB rates to prevent homes from flooding - won't want to pay more for water management. Need primary legislation.
- Catchment Partnerships focus on water quality - could they also focus on water quantity?

Operational constraints at River Basin scale

- We are missing Regional Strategies
- Water Resources East are the only regional group to understand the need to include peat in water-needs planning
- Are IDBs the answer - should they choose how to manage water across a whole catchment - give IDBs more funding to pump out less and have means of storing instead?
- A lot of flood planning happens but it doesn't include storage
- If the cost of pumping out was instead spent on storage, it would be a much more financially sound future than the one we're facing where we're looking at having to consider desalination and tanking and bank raising because of peat shrinkage. If the public knew how much of their money was being spent on pumping multiple times uphill and out to sea, they wouldn't be happy.
- The regulatory framework for building reservoirs needs to change - it needs to take less time and should require less money spent on consultants. We're in a Climate Emergency - things take too long. Small reservoirs could be put in in a season.
- WFD process sets the minimum level for rivers – but should the water management system encompass the whole system – not just river?

Wider

- No projections for future water need for agriculture or peat (WFD and RBMPs cover minimum level for river health)
- EA data outdated
- Assets don't work as the model assumes
- Need to balance environmental needs and flood defence needs
- We have enough water; we just need to manage it differently
- Current system adversarial/competitive - need to work together more holistically
- Too many different groups to put energy into - Water Resources Groups, Future Fens Integrated Adaptation, Fens 2100+ (at least 6 Fenland Groups)
- Too much time spent on identifying problems and not enough spent on planning and delivery - need to move into local solutions.
- Need better link-up between Regional Water groups
- Local Planning needs to take account of water needs more widely
- Planners don't understand the difference between small-scale water storage and large reservoirs which require land-use change.
- Should climate-critical projects (such as for peat) be fast-tracked through Planning and Consents?

- NFM opportunities also tied up in regulation
- CS funding - in scope to pay for capital investment and graduated payments means no income foregone at low levels.
- Capital funding is needed from Treasury
- EA abstraction doesn't allow for winter fill

Other notes from the chat

Water availability – If not available in the first place – dryer regions. Dry ditches in the summer. Plentiful supply in the winter. How do we implement storage in the winter?

Storage solutions? Reservoirs? Farmers have tried this – the process to get grants has taken too long? Need winter storage for conservation? Who is going to pay? Will paludiculture be economic enough to invest in winter storage?

Grants are for food creation / food crops / (high value). Climate change extremes are swinging both ways – for drought and floods. What is the water demand for net zero?

Do Partnerships / groups identify water?

Last public reservoir was 1994. Currently two proposals exist for public reservoirs – mostly for public supply for houses.

Need a distribution network for both human and nature demands. Need enough storage to maintain flows in dry periods in our main rivers. Our resilience to drought is very limited.

Huge amounts of data on housing growth and demand. Future forecasts – but for agriculture and conservation – almost NO information as to the water need. Huge gap! For example - How much water do we need to support Peat?

CEH did water demand to support wetlands. Could this be re-run with latest climate change models?

EA Standards of protection are completely wrong. Assets on main rivers are in worse condition than indicated. All main rivers are below target condition.

Great Fen project took many £thousands to assess water demand. It was a very lengthy and expensive assessment.

Lowland Peat 3 will include high level water calculations.

Ian Holman's water table model, is like the Great Fen and identifies what is needed.

Peat is a demand sector that requires water – but we appear to be a controversial adversary, conflicting with food supply and human water demand.

Is the CO2 release more if land is wet and then dried quickly? What if we can't sustain wetter areas?

Flood plains of Poland have a natural fluctuation - are they emitting more CO2? Probably not.

Can we retain the winter flooding on flood plains as much as possible – how long will this last for the summer?

What is the % of water in peat? What's the equivalent to a 1Ha reservoir in Peat? A. 90% of bog is water – but the nature of the bog water versus reservoir is considerably different.

Many of our Peat systems are in highly managed pump systems. For example, the Great Fen has water moved from cell to cell.

How can we cope with excess water, when the capacity is full?

Annual variability in Fens – 600mm – but this is variable?

Can we concentrate on IDBs that have remaining peat? Change law to make them water managers?

Will ELM, which encourages farmers to raise water levels, also mirror across to IDBs, encouraging them to store more water and pump less? However, lots of assets were installed in the 1950's and are failing - capacity is minimal and HSW issues are increasing.

Land managers are scared to store too much water – as IDB assets do not have the resilience to store the water as often the pumps are on the edge of failure.

Water level plans need to be created on an individual level, with clarity around the water management infrastructure. Edge of river and edge of estuary? If the EA is focusing on retreat – the assets start to fall in the 'at risk zones'.

Nominally flat land, with very small fluctuations create issues. Need to tackle this with much smaller cell sizes. Paludiculture trials are proving incredibly different.

Funding for carbon reduction- are there opportunities for Carbon credits for reservoirs? Current £20 per tonne – but it would need to be £120 per tonne for other options to be considered.

How do the current finance systems prioritise farmers to build reservoirs – when money is not available?

Broads have examples of reservoirs funded for agri. supply that cannot supply peatland rewetting.

How do we create an environment that reduces the risks to human flooding?

In the Netherlands, the water levels are incredibly high – how do they not flood all the time? BUT the Government there, fund an infrastructure to ensure that it doesn't flood. Requires investment. People trust that government would pay if they were flooded. Resilience is built into the system. Everyone understands about water management. However, in the UK this would require a HUGE change – but if we want to live with higher water levels, we need to live with these issues.

Millions are spent pumping water out to sea. Should we really be thinking about desalinisation? Peat shrinkage requires further expense.

Nene washes – flood storage site – water sits on these sites longer and longer each year. Conditions are deteriorating – due to this regime. Sea levels are rising – leading to increased tide locked areas.

Is there a whole system approach that allows storage? Money and regulatory framework

Flexible abstraction licences would help? Together with flexible licensing system that allows winter storage.

If more of the public knew how much they were paying to pump water- this would reset the question.

Farmers and Land managers would benefit from taking water. How could this be policed?

High value crops require certainty of supply – but if excess water, how could this be smartly used.

Would a dispersed network of reservoirs allow greater flexibility – like a sponge with small cells allowing storage? Could water companies include 700+ small reservoirs in their planning?

Small reservoirs can be re-wet via pumping stations holding water levels higher. Increasing small reservoirs – allow greater flexibility to balance the system. Creating a mosaic of land use.

Yorkshire – above groundwater water reservoir – paid for itself in a year but it was Year 9 – an extremely dry summer – which had the advantage of irrigation.

Big infrastructure projects take a very long time to deliver. However, football size fields – can be modified.

Difference between irrigation and the sheer volume of water required to keep peat wet to within 10-20cm of the surface is a whole new scale? Could underground reservoirs be built below ground?

How much water is really needed for Peat? The gaps associated in the summer and winter are stark.

- Winter – hold water levels, maintain navigation, prevent bank collapse. Don't drop too fast as it will also collapse. Retain water levels as low as you dare to have the surface capacity.
- Summer is the reverse – don't pump unless you must. Hold as high as practical. Drains will be kept brim full in the summer. If all abstractions are out at the same time - this has a huge effect and can reduce to fortnightly or abstraction bans.

What can be done to bring IDB rate payers along on this journey? To manage water. Payments are made to prevent flooding. IDBs do not receive money from abstractions – but they do spend entire summers.

Land drainage act is about drainage – functions have changed but legislation has not caught up. If they become water management authorities, the legislation has to change.

Thematic Break-out Session B.

How can we achieve multiple land use demands ensuring socio-economic & cultural contexts are taken into account in each lowland peat area?

The questions raised in advance that were grouped here included:

- How effective will different mitigation measures be in different peatlands across England and the wider UK?
- What are the common challenges and differences amongst England's lowland peat landscapes? Is regional scale the right scale to focus?
- How a transition of cropping away from peat to mineral soils could be approached e.g. via a Land Use Framework, consideration of a just transition.
- What is going to work best - top-down (stick/carrot) vs bottom-up (carrot) approaches to land use change.
- Where can historical knowledge of landscape and communities be useful and how can it be applied in policy and land management
- How do we bring lowland peat restoration together with current farming practices and culture
- Fragmented land ownership across a whole bog/catchment; how to create co-action to optimise scale and scope of restoration of lowland peatlands.
- How to engage landowners who might not be reliant on income from their land (horses etc)
- How to bring different expertise and organisations together, to give landowners a clearer picture of the choices they face
- How to ensure the range of key issues are considered e.g. impacts of climate change, managed retreat of coastal defences

The idea is to reflect on practical ways of working.

Balancing peat restoration with demand for food security etc.

Regional differences in approach:

- More farmer-led and bottom-up in the Fens.
- More top-down in Somerset and Cumbria but trying to create consensus from the bottom-up.
- The Broads somewhere between the two.

The approach in Somerset is to build a structure to allow the conversation to happen at the local level. These Moor Associations are an example of an effective bottom-up approach, led by farmer facilitators. No spatial guidance - no one is looking at land-use at regional level. The dominant challenge to change in Somerset is fragmented land-use.

Public engagement is lacking in Somerset but important to bring the two key stakeholder groups together because flood risk management is a key risk. Residents are very sensitive to anything around water table management.

Cumbria is lacking someone with the skill and funding to bring the conversation forward. It is challenging to communicate the vision to farmers because it's driven from the top, so the vision isn't clear. The context in Cumbria is similar to Somerset. Commons Associations in Cumbria could learn from the work of Moor Associations in Somerset.

Economic argument strongest for bringing landowners in across different areas. Making the

economic information available is mandatory.

Challenges for tenant farmers: often arise from lack of clarity about landowners' ambitions (e.g. United Utilities). Leads to withdrawal of engagement.

There are major differences in the levels of expertise across land agents, which leads to conflicting advice.

Involvement of wider stakeholders (e.g. general public): Local Nature Recovery Strategies provide an opportunity to involve broader stakeholders and community groups. Some examples of people-driven projects but where these have been led from an environmental angle, the challenge is getting landowners on board.

Local community stakeholders: involve key community groups, environmental groups, parish councils.

Thematic Break-out Session C.
What guidance is needed to support adoption of SW17 & SW18 ?
Discussions also covered rewetting in the context of Landscape Recovery

The questions raised in advance that were grouped here included:

- Interactions with other SFI actions
- Interaction with other aims e.g. biodiversity, paludiculture, flood water storage

The aim was to identify and clarify the gaps in knowledge but also make suggestions on how they should be filled, whether through research, monitoring of practice or other.

Action	Action type	Duration	Annual payment	Action's aim
Raise water levels in cropped or arable peat soils to near the land surface	Updated CS (SW17)	10 years	£1,409 per ha	The water level on cropped or arable land with lowland peat soils is raised to between 10cm to 30cm below the field surface and maintained throughout the year
Raise water levels in permanent grassland peat soils to near the land surface	Updated CS (SW18)	10 years	£1,381 per ha	The water level on permanent grassland peat soils is raised to between 10cm to 30cm below the field surface and maintained throughout the year

Note that a water abstraction license with a purpose of spray or trickle irrigation can be used for the purpose of peat re-wetting as long as all other conditions on the license are met. Please see Checklist below for further guidance or contact me on joanne.dumbrell@environment-agency.gov.uk

Peatlands Water Resource Application Checklist

SW17/SW18 – guidance

Everyone's waiting for someone else to jump first.

Lots of folk are looking to demonstration sites to show it is possible without too much cost and risk to farmers and that it will deliver for policy.

Could there be a publishable flow chart for ease of understanding

Put together by an agreed body, ideally something all can sign up to (with the intention built in to revise as needed) - otherwise always going to be challenged.

What is required to meet the water level requirement?

- Is it talking about water table instead of water level – note that the old ESA scheme referred to water level in the drain? This can be controlled and measured more easily.
- The depth ranges been based on the data in the Evans et al. graph. There the water table depth is an annual average; whereas it appears that the SW17/18 table suggests you have to keep it in those ranges at all times. This is impossible - no water table control as it stands.
- **Ideally the description needs to be clearer, it could say ON AVERAGE or perhaps better to say, you should keep between 10-30 cm between e.g. 1st April – 30th Oct or similar. Flexibility for winter to bring water table down for flood control. Colder temps in winter should mean lower GHG risk.**
- Prescription is vague; therefore, a farmer wouldn't know what they need to design infrastructure for. To ensure you are going to hit 10-30 all the time every year including dry years, you need access to more water than promising to maintain this every 8 of 10 years. Chicken and egg situation
- Given the plan to also have a lower water table target, could you swap from one to another, e.g. including a 3 or 5 yr break clause allowing all to go in at the 30-50 l level, and if it goes well move to higher.
- But 30-50 cm is a bigger risk, if the local challenge is to maintain where there is winter flooding
- It is important to be clear about extremes of weather etc and requirements e.g. of other authorities e.g. IDBs who will be looking at a catchment scale, otherwise it appears that you are setting farmers up to fail.
    - What happens in a flood? Does that make it not eligible?
    - Similar for summer drought/dry year. What about keeping the ditch full. No reflection of weather variability.
- Circumstances need to be defined before entering agreement – Be explicit – e.g. It would be allowable for your water table to drop in 1 in 5 yrs.

e.g. Will it be similar to other SFI agreements – if you fail, you get other chances to re-do. Or will there be penalties.

Local water table monitoring

- Currently proposes dipwells. Depending on feasibility studies.
- Will need a years' worth of water table monitoring, for feasibility studies to know if SW18 is achievable in the first place.
- But feasibility monitoring – this is unclear on methodology.
- 30cm is a problem as the water table is not flat – some land will already be 30cm above where dipwell is - so it is important to understand where to put it without overcomplication. But also stopping location manipulating answers too much.
- Monitoring bespoke to your agreement/plans. Report to RPA.
- Is there a role for measurements coupled to models?
- Can there be a degree of tolerance for people already raising their water tables.
- Capital items for dipwells – need money for dipwells to do feasibility studies to get money for raising water table. Separate capital items not tied to an agreement – can this be changed to help facilitate action.
- Remote sensing methods of getting measurements? Not yet, expensive, not reliable. Hyperspectral possibly?

Legal / legislation issues

- There are no powers to raise water tables
- Compensation for 3rd parties. Would like to see a risk assessment that helps inform decision making on who to engage and the level of risk.
- Change in legislation might be needed to remove risk of court/penalties

Drainage boards consent for ditches/trenches, water

- Changing licenses for peat
- Wish to have exemption for wetland creation

Can we develop templates for feasibility studies

- Hydrological control – need to be agreed in principle with both IDB, EA for the landscape unit. No point in doing feasibility study unless agreeable
- EA and IDB are unsure on modelling- hence often over-specify on modelling – farmers overspend. If there was more guidance, this would allow a clearer approach and remove one barrier to putting in.
- Many consultants are unlikely to say yes, as so uncertain, and also need better training / tools for those consultants.
- It would be good to have a flow chart- work through system.

Definition of peat soil??
Needs clarifying across different orgs/bodies
2m of peat – seems to be the guidance from NE. Is there a minimum depth?
Several places seem to use a minimum organic matter.

- 40% in ELMS
- 20% is peaty soil when nutrient planning

Peatland code has different ones.

Also, as there will be different depths in a single field - would the whole field qualify??
If a section of a field being peat free doesn't disqualify you – land manager would want a clear promise!
But if the focus is on GHG reduction then the broadest possible definition should apply, as rewetting would support GHG reduction, however small.

Landscape Recovery

- Focus should be on a larger hydrological unit rather than field by field.
- Payments to collaborate with neighbours
- Also, payment rates for fields suffering re-wetting from neighbours. Collaboration supplement.
- For preparation phase, ideally need to allow a minimum of 18 months; ideally 2 years.
- Need more access to support to bring farmers together – for current implementation this is largely sitting in hands ENGOs and there's no money.
- How to bring someone to facilitate collaboration for areas like Cumbria, where peat belongs to all.
- Little work or focus currently tracking buried/hidden/not peat areas - where patches of peat are being affected by drainage.
- Mismatch between NE advisors and the gov guidance – NE saying one thing, but advisors helping farmers can't go on what anyone except gov says for fear of penalties.

    - Line to say ‘agree with your NE person’ – to clarify.
- What to do to make life easier?

Thematic Break-out Session D.

Are there ways to actually unlock & stack funding options, including green finance for lowland peatlands?

The questions raised in advance that were grouped here included:

- How do the funding and finance streams all work together (or not).
- How to create long term funding and support for delivery of restoration and/or sustainable management of peat soils (including for land acquisition, project development, machinery/kit for sowing & harvesting);
- Possible future green finance markets and how to kick start these.
- What is required to enable a NBS green finance product on LAP and what are the knowledge gaps and capacity in verification & validation.
- Is it possible to deliver an investable lowland peat restoration project at a small scale (less than 200ha)
- How to access resources and funding for detailed design in advance of capital works
- How does SFI fit in as an incentive to best manage lowland peat soils?
- Can we imagine a Government funding model that will allow for support schemes that are not solely based on income foregone.
- How can grant opportunities be communicated to farmers, and what support can/should be put in place to allow farm businesses to make an informed decision? (i.e.. business planning support to assess current vs potential income of different options).

The idea is to explore the question focussing on solutions, but you may need to begin with an options table.

The framework below is a suggested starting point, but it's a free-text document, so do whatever you think works best for you all.

What are the funding and finance options available now (and expected soon)?

- Mandatory BNG,
- Biodiversity – other e.g. other habitat banks
- Water
- Carbon
- Other ecosystem services management - nutrient neutrality, natural flood management

What happens to the land after the change has taken place? For the farmer? Compensation? What happens after the schemes. No clarity on long term intention with this land.

Banks may block major land use change - rewetting the peat is currently perceived to reduce the value of the land

Land use value - agricultural land classification of rewetted peat presents a challenge - what can we do - Is a Grade 1 land class for lowland peat appropriate?

Need to ensure that the fact that the baseline for farmers is shifting anyway due to climate change - land value is not going to remain the same for potentially a number of factors (e.g. saline intrusion and what that means)

Land agents - disconnect between the environment sector and understanding amongst land agents. Their motivation is the best deal for the farmer, market price. Systemic behaviour

change

- Retraining of the existing land agents (Lincs as an example)
- Influencing the courses of the new land agents

Buyers - want to see bundled credits

Landowners - prefer stacked based on the expectation you'd get more in the end

BNG

Grant funding and access to BNG limitations - Lancs project using voluntary BNG with a corporate and 5 years of funding. Several flagship species have recovered, and this helps promote the work to their Board/stakeholders (for more information can contact Mike Longden (Lancashire Wildlife Trust)). Originally the aim was for full carbon validation but were able to build a relationship and through that wanted to test the markets.

BNG designed for developers and ecologists - not landowners

BNG is a compliance market centred around the development sector. Very little development will be taking place on lowland peat habitats relative to other soil types and conditions, and where a development does take place on peatland the above ground vegetation is likely to be less distinctive than true peatland plant communities (e.g. an arable crop field or modified grassland as opposed to lowland fen). Conserving peat conditions and maintaining wetland habitats is often more expensive and requires more initial capital investment than creating other, less distinctive habitats. Therefore the price of BNG units for non-peatland habitats is likely to be able to be more competitive in the market, and the current BNG trading rules means there's no incentive for developers to choose to purchase wetland units. In addition, the BNG metric doesn't generate many BNG units for creation or enhancement of wetland habitats relative to other land use change or management. It is therefore difficult to see how the BNG market will contribute significantly to lowland peat restoration, and there may be concern that projects begin in the expectation that BNG will provide the future funding and come to realise that the market demand simply isn't there.

There is lots of discussion about BNG in a Landscape Recovery context, but it generates a plethora of practical and commercial questions which seem difficult (perhaps impossible) to resolve across multiple land holdings, the most challenging being how to disturbed the sale proceeds of BNG units when you have multiple landowners all generating the same or similar units across a project area and an infrequent and specific unit demands from developers. To split the sale proceeds equally amongst all landowners in the Project will likely be too little a trickle of cash flow, and to reward one/some landowners over others (in order to overcome the challenge of cash flow) will likely prove unpopular and only solve the problem - temporarily - for some and not all. It is therefore difficult to see BNG as being a practical solution for blending finance for LR projects.

There is a need to go into school and tell them about ecology - driving up attention to the roles in the sector. Role of ecologist is changing. Being a biodiversity consultant.

Carbon

BNG and voluntary carbon - additionality checks don't work as BNG is mandatory so it is unlikely that peatland restoration will be able to claim both BNG and carbon.

International carbon markets - can get credits for as low as £3, therefore ours being £30 isn't as bad as it seems.

Transaction costs for individual landowner is high - woodland carbon example need 10ha to cover the transaction cost this creates a minimum

TNFD - Taskforce for Nature Financial Disclosure - carbon in supply chain. If the nature one was made mandatory – it would require corporates to understand the risk to their supply change. More complex than climate. Would also create a market. In the UK you need to cluster, England is too small, so it is a buyer's market not a seller's market. LR can become interesting - perhaps even several LR projects to make it a viable proposition.

Moving away from offsetting towards supply chain 'insetting' and other voluntary actions

Water company funding - huge potential but currently can't invest in nature-based solutions due to OFWAT framework limitations. Can it be outcome focussed? Sustainable solutions for water and nature (See new initiative at https://www.sswan.co.uk/)

Options with Insurance companies

Supply chain is critical in a peat context - the big distributors and growers can have a range of positive and negative impacts on the landowner.

Marks and Spencer are an example of a retailer actively seeking to reduce their carbon footprint. They are not the only ones. Could they penalise for growing on peat? Do we agree with that?

Thematic Break-out Session E.

Do we need regional hubs to link growers, funders, business, product developers for paludi-crops?

The questions raised in advance that were grouped here included:

- What sort of training/knowledge sharing needs to be done to support the capacity of those who are interested in rewetting their lowland peat soils.
- Need to develop sound business cases for paludiculture
- Developing the market and supply chain for wetland products
- Must take a commercial focus and not simply knowledge exchange.

The idea was to brainstorm whether the idea of regional hubs of this sort might be valuable?

The group worked together to share thoughts. A discussion framework was provided as a starting point. Notes taken within the workshop are provided to help take work in this area forward.

Reflections on Reed Cutting

Master Thatcher's association. There is a keenness to have local reed. Similar costs for UK (e.g. Norfolk) and imported reed.

Current barriers are around the volume of reed that can be cut and harvested.

Does a licensing system need to be in place to ensure reed cutters can cut, there are problems around water levels.

Main barrier is the lack of reed cutters, it's tough work and often an expensive place to live and it's not thought of as a job anymore.

Reed cutters are working individually which makes scaling up and developing new approaches more difficult.

Also, it is difficult and costly to take time out to train the younger generation. Develop a qualification in reed cutting? on the job like the Master Thatchers' approach?

Mechanisation options – e.g. floating seeker harvesters in other countries.

Dry reed can be stored for many years and could be stored with low tech solutions such as open sided barns.

A grower led hub could have standards around moisture etc. and the longevity of the reed.

Wider points

The commercial side is still missing from paludiculture, and this is the biggest barrier.

Marketing

- Add value by using evidence that paludi crops are better for the environment.
- But another label could just lead to more auditing and more farm burden.
- How to work with end users better?
- Should there be a focus on links to heritage crafts
- Marketing could be crop-based or wider so that it is market focused (e.g. bio-based building) and hence may go beyond paludiculture
- Is there any policy coming to say all building materials need to be more bio-based.

- The NFU Sugar Board might provide a good example of this, ensuring farms are treated fairly and there are good contracts etc.
- How will skills development for paludi-crops be handled? Investment will be needed in skill development. For the long-term thought needs to be given on how to reduce the risks associated with taking on an apprentice.
- Storage will be needed to allow for effective distribution, but this could be a national hub. The hardest bit is getting the crops out of the landscape in the first place.
- A central depot with regional packhouses? Potentially also with accommodation on site.
- Farmers can get the agronomy right provided they have the financial support from the markets.
- Current food crops grown in paludiculture systems seem to achieve lower quality, the supermarkets therefore need to drop the spec, usual crops are 80-85% successful at meeting the specification, paludi crops are much less.
- Any actions will need to embrace the whole scale from cottage industries to commercial growers.
- Design and implementation of mechanised cutting is not easy, but if there is market demand then the capability exists in the UK to deliver any new engineering needed.

More investigation needed

1. National crop specific organisation(s) responsible for marketing and development of processes, schemes etc.
2. Regional logistics hub(s)

Thematic Break-out Session F.

What mechanisms (from other sectors) can we use to build better ways of sharing evidence from science and practice?

The questions raised in advance that were grouped here included:

- Need to create more effective communication and sharing evidence from the Government/academia to practitioners
- How can different sorts of evidence be brought together?
- Need ways to share understanding of how things will work on the ground, especially learning from case studies, without losing the importance of context
- What are the best ways of demonstrating commercial benefits of paludiculture and other land use change to landowners
- Need to have ways of working together to understand key learning & next steps.

The group worked together to share thoughts and develop a proposal that will take the work of this Forum forward and develop it further.

Share thoughts about the mechanisms for sharing evidence from science and practice you have experienced…

What has been effective personally in supporting behaviour or attitude change?

- Supermarkets - effective at driving farmer change, but also raising public awareness
- IUCN Peatland Programme is supporting academics to gain funding
- IUCN Peatland Programme also produces online briefings, collating evidence and sharing success stories
- Conservation Evidence synthesises evidence on effects of interventions on biodiversity. Challenge = raising awareness of resource, and getting people to actually use it. Unless there's an expectation to use evidence and/or it's clearly beneficial, people won't bother.
- Clarivate – collating publication data, but worth a lot of money. Similar model for conservation sector?
- Engagement at IDB board meetings - diverse audience because they *have* to be there!
- Huge amount of work is commissioned by Gov Departments but publications on gov.uk don't seem to reach practitioners. Information on Gov non-sensitive projects should be shared in more agile ways and reach different audiences (e.g., academics working on similar topics).
- Webinars allow for sharing of evidence, and feedback to improve future evidence collation work. Can also bring together diverse forms of evidence.
- Independent hubs/brokers are good (e.g. compared with government organisations, which might not be seen as neutral)
- Ideally with a communications lead who can interpret and incorporate the evidence

Data sharing

- Academia uses shared big data repository systems, researchers deposit data in that repository in a standard format. This methodology could be used across different sectors: e.g. IDBs, private landowners etc. Each are likely to hold their own data…this can mean that data is stuck within sectors and not shared beyond to the wider community.
- Consider data licensing. The government publishes as much as possible under an open

data license. Commercial interests make this challenging in the private sector.

- If open access data, someone still needs to pay for it.
- Flux tower data – submit data + metadata
- FAIR principles should apply - Findability, Accessibility, Interoperability, and Reuse of digital assets. https://www.go-fair.org/fair-principles/

How to communicate

- Not too much supporting information (overwhelmed with data)
- Language needs to be tailored for the audience. Complex/technical evidence needs to be translated into usable text.
- Accessible language, the aim is to target practitioners and policymakers at same time. Connect all sectors.
- Consider sharing mapped information – visual, accessible information
- Agriculture: attitude change will only come when people see things (e.g. paludiculture) being self-sustaining. Need to be delivering outcomes, not just investigating things.
- Need people with 'right' background to communicate e.g. Fenland SOIL effective at liaising with farmers and agencies, because they have a farming background. Try and put the right organisations in place as broker/facilitator to match audience needs; here this will largely mean putting farmers put in driving seat. But also needs to be careful as farming is a very diverse sector.
- Need to be talking with higher levels (e.g. directors of large companies) to effect real change, not necessarily working with individual farms/landowners.

What to communicate

- Understand audiences so communications are well targeted - frame in best way for each audience. Maybe the focus on net zero within peatland teams has hindered communication? Need to better communicate local benefits for each landowner (soil preservation, productivity, water quality etc.)
- Need evidence to show the effects of rewetting peat? Or maybe people are aware of this already and are carrying on BAU regardless.
- Need to be talking with business, in their language. Will they be accessing 'green fluffy' resources like IUCN Peatland Programme.
    - Natural capital thinking e.g. economy's reliance on soil, economic viability of different land use scenarios, cost of degradation for BAU. Provide the data that business is interested in (not necessarily biodiversity)
- Other sectors may not be so interested in peat - just one of several factors they need to consider.
- Making sure any evidence synthesis asks questions that practitioners want to know about.
- Good to get landowners to make their own evidence-based decisions about land use change and management → more likely to accept these.
- As well as data / evidence, need to provide info that helps people move into action once they've been convinced by data.
- Not just about collating evidence, but the need to help people interpret it. And encourage mutual understanding.

Thoughts about next steps

- Demonstrating the impact of evidence syntheses and associated projects - what are the benefits of using evidence.

- Scope an evidence hub/team, then resource it. Outline bid prepared so can be submitted when an opportunity comes up.
    - Oversight of lowland agricultural peat evidence + role in communication to audience (portal + outreach) + identify knowledge/evidence gaps
    - Becomes go-to place for several different audiences
    - May be slightly different front ends for different end users e.g. business, practitioners, farmers
- Invest in and collaborate with existing hubs/portals e.g. IUCN Peatland Programme, Peat Data Hub. No need to reinvent the wheel.
- Develop economic / natural capital arguments for peatland rewetting and restoration
- Accessible communications (short 'tiktok' style videos, maps/visual data) - when appropriate for evidence to be communicated and the audience.
- Involve supermarkets: show them evidence to get them on side (e.g. data on crop yield vs C emissions from peat vs mineral soils), so that they can also be involved in driving wider market change.
- Formalised regional groups to share information? More appropriate than national level? Important to keep bringing people in, and not just preaching to the converted.

Thematic Break-out Session G.

Recognising that current government funding for peat is centred on Net Zero outcomes, where should the government be focussing its resources for maximum impact?

The aim is to make proposals for areas of focused action and/or proposals of mechanisms that will allow the priorities to be set equitably.

The group worked together to share thoughts and, as appropriate, provide suggestions that help to address the issue. The notes taken within the workshop are provided here to help take work in this area forward.

- Good that we have begun to explicitly recognise that can't rewet everything on peat – and that not everyone's peat is the same
- If Government want to maximise their impact, then not good just to have a pot of money and have people bid for that, it is better to also include targeting to people/groups or actions specifically
- Need more strategic targeting of funding
- Need to target some information at the un-converted; work with communities not just farmers – create common understanding of the challenge in lowland peat landscapes
- May need to fund facilitation. Part of the solution in Somerset has been that FWAG SW have taken the initiative to form Moor Associations which co-develop structures to enable them to make decisions and distribute finance/funding in ways that they agree are fair. These need facilitating (heavily initially, and by local trusted people). But important not to disenfranchise existing local structures e.g. IDBs

Barriers to impact from current funding approaches:

- Limited time of funding
- Need for long term funding (even 10-20 years)
- Parochial: sometimes we don't have projects that are joined up enough (could Peat be identified as a UKRI challenge and a Network+ project developed e.g. LUNZ; or perhaps the mechanism should be less academic-focused and more practitioner-linked e.g. Catchment Based Approach)
- And is there someone who can tell which projects need to be joined up/connected? – ideally need an overall lowland peat programme steering group for all work across government and beyond.
- Not enough funding to do things on-farm and still too risky for farmers
- Need peat sensitive farmers/nature sensitive farming advisors
- Need multifunctional land use framework (that would link priorities expressed nationally / regionally to mechanisms to plan action locally - bottom-up)
- Regional partnerships can tell government their long-term plan and what funding is needed; they can also be the places where policy makers/government discuss challenges and help prioritise approaches. Sharing between regions is also important.
- For paludiculture and C credits etc still need the market/business to be in place before larger scale adoption
- PEF has enabled paludiculture trials but just 1 – 2 years. It will take years of experimentation
- Need to recognise that farmers (and others) are coming up with a lot of the solutions right now

England Peat Map might be able to help outline what the scope is for restoration. But this might largely be known already – so don't wait for it to be in place before any action is taken.
For action planning, though, the scale might not be right – how can we bring together more locally-derived information at field or within-field scale.

Things to think about for next steps

- Need to think about all peat and peaty soils, not just deep peat
- Need to develop mechanisms to support the move of production from organic to mineral soils where appropriate; do we also need to have systems that we can drain again for food production if needed?
- Need more understanding of the likely impacts of climate change (do we keep answering unknowns or try to answer specific questions)
- Can we identify the areas of lower food output on peat soils – they would be the quickest wins, develop mechanisms to try and prioritise them
- Need to broaden the focus from net zero ensuring that water is a key part of the conversation - Flood risk, Water Resource, Water quality as well as biodiversity
- Any actions that help unlock green finance and other funding streams
- What are quantifiable benefits for farmers? Need to expand trials network, focus on finding out what works and to what extent.
- Where farmers are being asked to rewet, can we offer the farmers insurance and derisk it for them

Training and advice

- Need to train some trainers - get the community together to create a training plan
- The advisors and supporting resources are not yet in place – some of this might be able to be aligned with a locally tailored version of Catchment Sensitive Farming delivery.
- Need to know more about how to control the variable of water table depth within fields and the infrastructure to manage water table; we are lacking key information needed to advise farmers. We can tell them about a problem, but not how to solve it.
- Need more farm advice and need more training by local trusted advisers, and through peer-to-peer learning
- Fund a course for farmers who are farming on peat, and insist that advisors working in peat areas have this understanding; development of a training course like Basis exams
- Extension service - help farmers deliver it, one to one, build from existing resources in regions
- A peat sensitive farm advisor needs to be farming and nature sensitive; someone who understands both and can give the farmer the best advice for their situation (ideally and with reference to a co-designed local land use framework).