

Lowland agricultural peat and the water environment - workshop

Protecting Carbon in peatland soils depends upon rethinking our options for the management of the water environment.

Land and water managers, including the EA, currently have an incomplete understanding of the ways in which we can best manage water to reduce GHG emissions, whilst providing a future for farming and associated land uses.

This workshop will draw out the big challenges for water management on a variety of scales, discuss delegate views on key unanswered research questions and invite examples of existing evidence-based programmes to help inform the debate.

Agenda

Introduction

Talks:

- Fens 2100+ - Amy Shaw
- EA Lowland Agricultural Peat Research and Development project, LAP Water R&D – Emma Taylor
- EA permitting links to lowland agricultural peat - Emma Taylor

Activities:

In the context of water management in lowland agricultural peat landscape

a) Individual interactive session – identify your challenges/issues/concerns

b) Workshop 1: What are the challenges?

A detailed response to one or more challenges on one of the following themes -
policy, funding or current water management landscape

c) Workshop 2: What do we need to do to address the challenges?

Identifying research/knowledge gaps.

Summary

Flood Risk Management challenges in the Fens: Fens2100+



- Approximate flooded area (on peat)
- Islands and silt ridge
- Meres
- Settlements in and around the Fens



Lowland Peat & Net-Zero

- Fenland is being eroded through drainage and cultivation at a rate of 2.0cm a year and releasing CO₂ into the atmosphere. Only 10,500ha are estimated to have peat deeper than one metre and a quarter of this is located in nature reserves or in flood relief washlands.
- The carbon emissions from Fenland peat wastage is estimated at approximately 3.8 x 10⁸ kg C/y.
- The Fens is the largest contiguous area of lowland peat in the UK and lowland peatland and Cambridgeshire's peatlands account for around 70% of wasted (damaged) peatland in the country - around 27% of England's total peatland stock.
- The carbon impact of operations and maintenance across the Fens Lowlands is in the order of 13,350 tCO₂e annually.
- The development of paludiculture as an option to restore peatlands whilst enabling the land to be productive.



Contact: Fens2100@environment-agency.gov.uk

The Asset Management challenge.....

The past

- Single economic focus
- Reactive following disaster
- Visionary but short-sighted
- Divisive & damaging
- Multiple benefits not always by design
- Limited 'state' funding

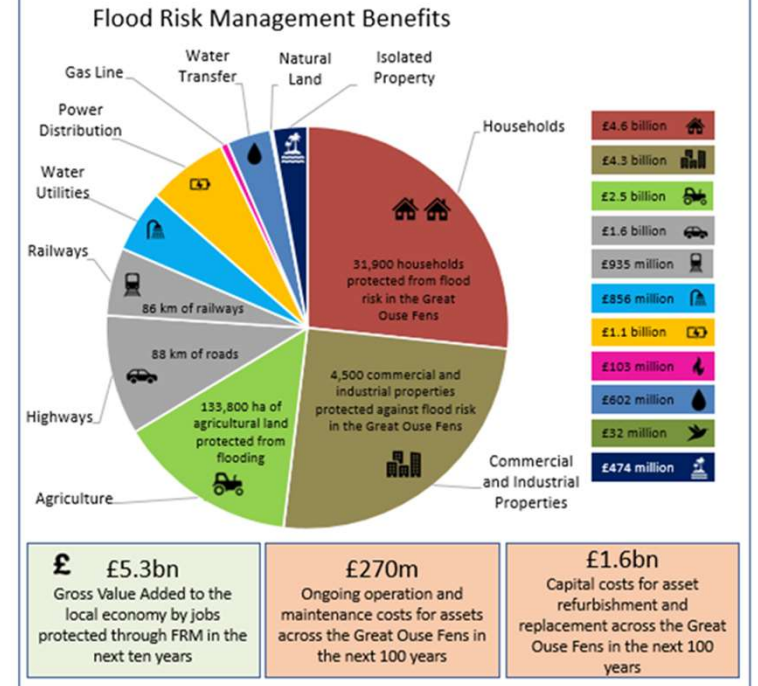
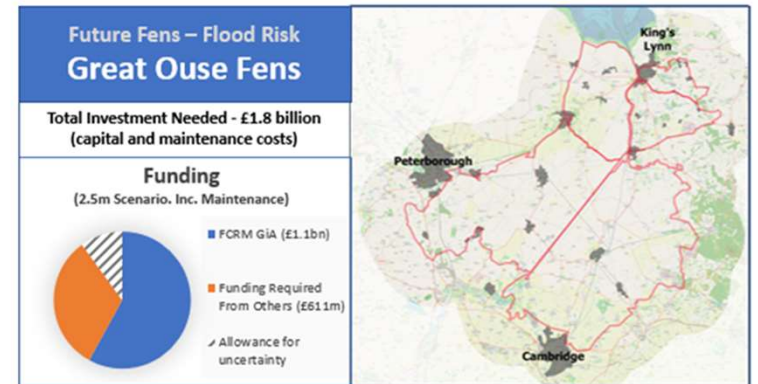
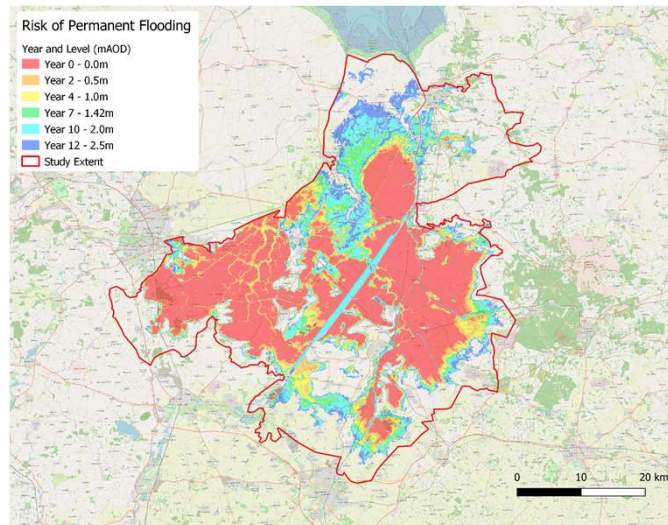
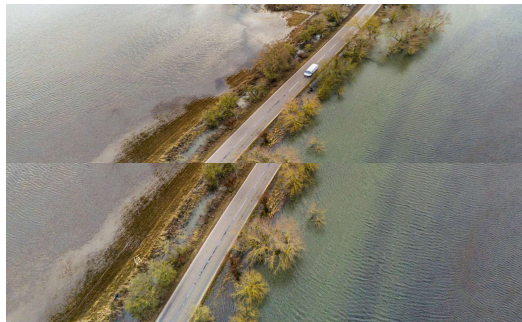
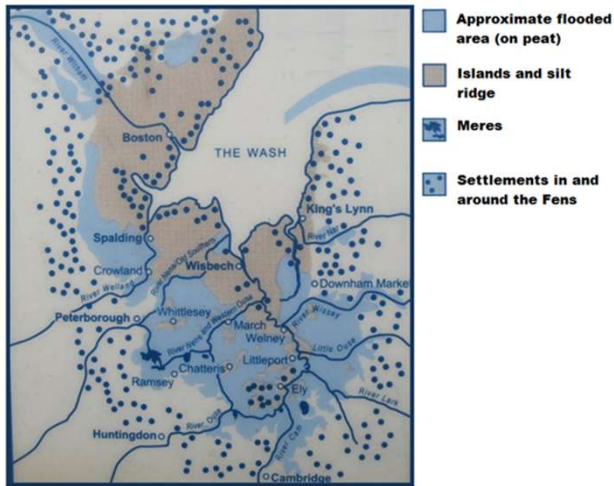
The present

- Large, complex landscape
- Many organisations
- Assets fit for today
- Sub-optimal multiple-benefits
- Pockets of strategy and collaboration
- Uncertain future(s)
- Beneficiary pays
- Misconceptions eg 'rural'
- Uncomfortable truths
 - Scale of PF
 - Scale of decommissioning
 - Carbon net zero in a pumped system



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Challenges for responding to the peatland agenda in the Fens?

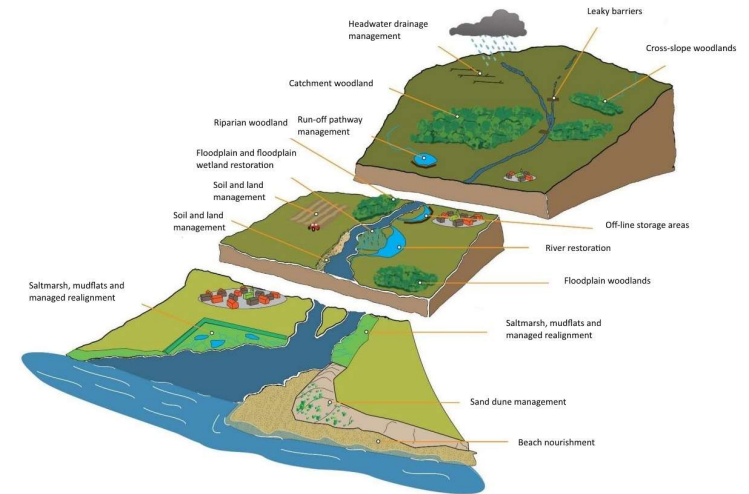
- A landscape at the forefront of climate change – multiple challenges of flood risk management, sea level rise and drought all in one place
- An asset management system set up to remove water
- Funding and policy which drives investment in assets with protect people and property
- A managed system – which will still need to be managed in the future
- Legislation which encourages drainage rather than water level management
- Multiple policy drivers – housing, transport and growth, environment, net zero



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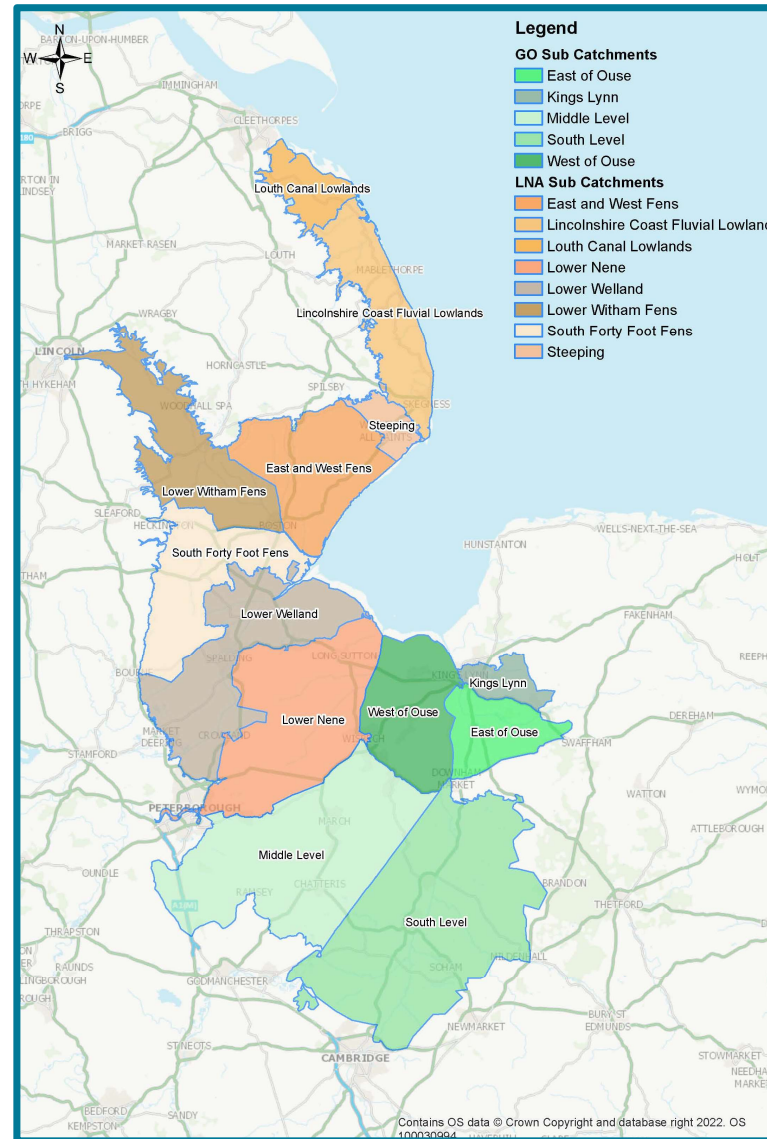
Aims of Fens 2100+

- Take an adaptation pathway approach to:
 - Deliver a **true landscape approach to FCRM asset investment**
 - **Give clarity** to RMA's (EA and IDB's) what FCRM investment is required in the short-medium term
 - **Achieve certainty** in the future FCRM capital pipeline (strategic case)
 - Give the confidence that our FCRM investment will:
 - Deliver **long-term climate adaptation**
 - Enable the delivery of a **landscape that is desired by those who live and work within it.**



Ensure we invest in **the right thing, in the right place and at the right time**

Fens 2100+ Sub-Catchments



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End products

1. *Fens-wide investment framework*

- *Give the justification to taking a catchment-scale investment approach.*
- *Explains how the asset managers (and wider partners) will work together across the landscape to determine what investment is needed when.*

2. *Catchment-scale asset investment plans*

- *Applies the framework set out above to each catchment to determine the likely investment requirements over the next 30 years.*
- *Confirms the immediate (2027-2023) asset (and other) investment requirements across each catchment.*

3. *Catchment-baseline reports*

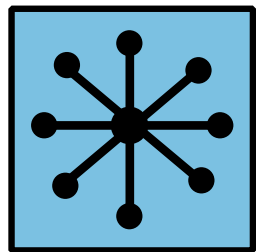
- *Provides an overview of each catchment and the current FCRM operational situation and current and future flood risk.*
- *Explains future asset investment funding challenges.*



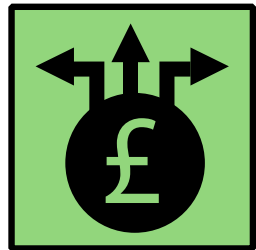
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Ambition Fens2100+

Vision: A climate resilient and ... “vibrant Future for the Fens”.



**Fens
2100+**



Informs (resilient) choices and supports future learning (and monitoring and evaluation).

Drives (integrated) investment through agreed ways of working and decision making.

Delivers (place-based) impact by creating a tactical handshake between ambitions, investment and action (2027-2033).



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Lowland Agricultural Peat Water Research & Development (LAP Water R&D)

Nature for Climate Programme funding, £1M EA led R&D Programme

Aim

To improve the evidence base relating to the requirements and impacts of raising water tables on LAP for water resources, water quality, biodiversity and water management structures.

LAP Water R&D

Five Themes:

- Water resources
- Water management
- Feasibility
- Nature based solutions
- Regulatory framework



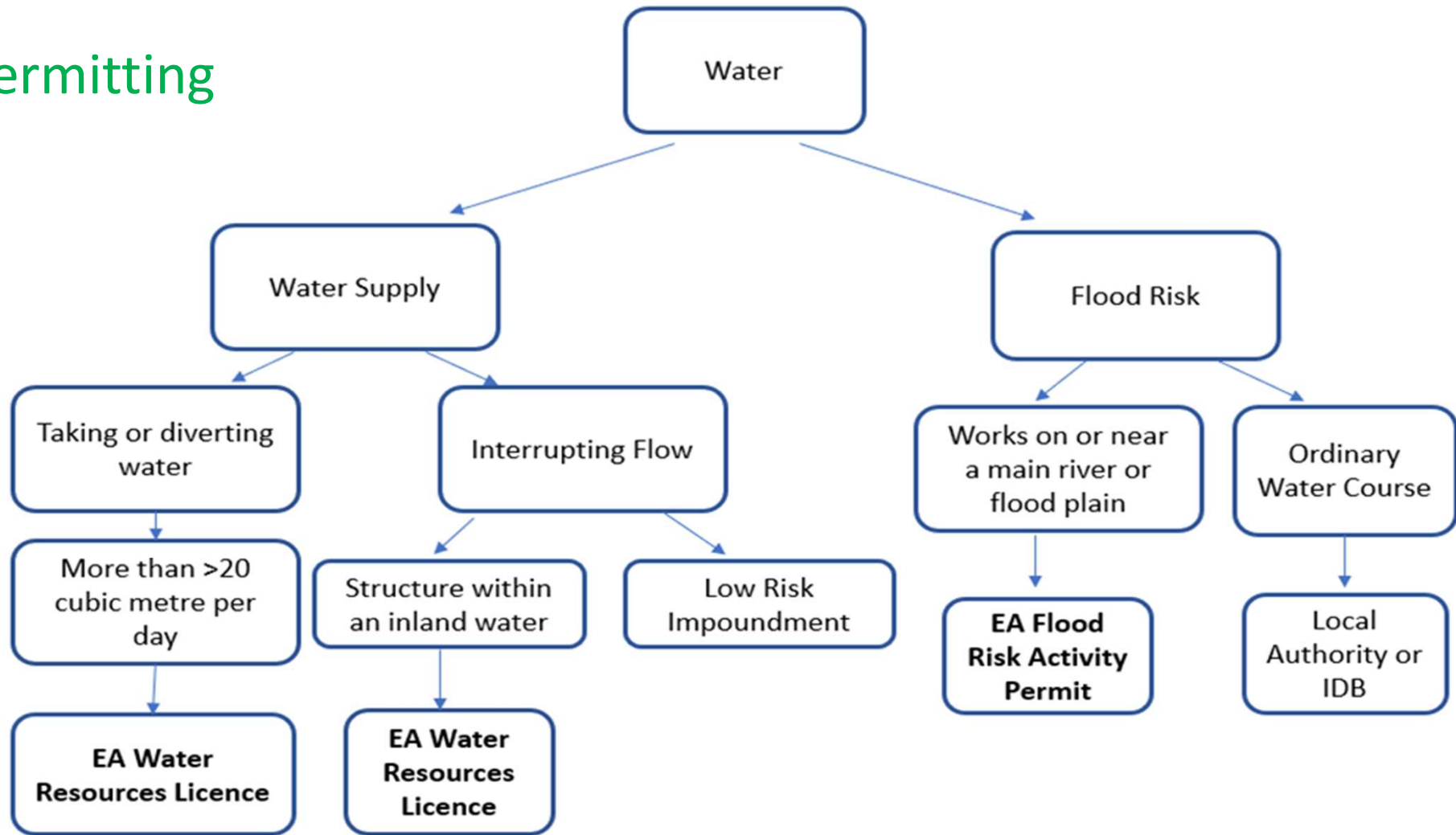
EA Permitting

- **FRAP:**
 - Flood Risk Activity Permit
 - works were to take place on or near a Main River or in a Flood Risk Zone.
- **Impoundment Licence:**
 - Activity to hold back water such as altering installing or sluices, damming watercourses or altering bank heights are likely to need an Impoundment licence.
 - Some activity such as grips and in field drain blocking are likely to be classed as **low-risk activity**.
- **Abstraction/ Transfer Licence:**
 - Sites that need additional water from watercourses to keep water tables high
- **Reservoir Act**



Credit: J.Champ

EA Permitting



EA Permitting

Details on Gov.uk

- **FRAP:** [Exempt flood risk activities: environmental permits - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/exempt-flood-risk-activities-environmental-permits).
- **Impoundment or Abstraction Licence:** [Apply for a water abstraction or impounding licence - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/apply-for-a-water-abstraction-or-impounding-licence)
- **Reservoirs:** [Reservoirs: owner and operator requirements - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/reservoirs-owner-and-operator-requirements)

Encourage Pre-App advice

LAP Water Discovery Pilot Grant: [Lowland Agricultural Peat Water Discovery Pilot - GOV-UK](https://www.gov.uk/guidance/lowland-agricultural-peat-water-discovery-pilot)
[Find a grant \(find-government-grants.service.gov.uk\)](https://www.gov.uk/guidance/find-a-grant)



Credit: Sian Russel