

FARMER CASE STUDIES: TOWARDS ACHIEVING 'FLOURISHING' FLOODPLAINS

Floodplain Meadows Partnership conference 2023

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@cachivers



Introduction

- Part of the Flourishing Floodplains project
- Worked with farmers in the Severn Vale area to develop farmer-friendly case studies surrounding floodplain management
- Informed by previous research (e.g., Landwise, ELM T&T)



CCRI team



Charlotte Chivers



Chris Short



Honor Mackley-Ward



Bee Ray-Smallcalder

Examination of existing case studies

21 case studies alongside literature review

Key findings:

- Importance of open-ended questions - explore *why* farmers are using particular practices
- Wide range of formats can be used for case studies
- Language/content should be easy to understand
- Use of tipping points/journeys
- Inclusion of different types of evidence
- Recognition of heterogeneity



Farmer workshop: key findings

9 land manager participants

Local knowledge of flooding = key - years of observations

Short periods of flooding seen as beneficial - nutrients

Key challenges:

- **Blackgrass** burdens = encouraging arable reversion to grassland
- Concern around **hay cutting dates** - inflexible
- Agri-environment scheme **payment rates** - too low, e.g., ponds
- Nervousness around **carbon accounting**
- **Public access** - awareness of Countryside Code, dogs



Case study resources: key content

Key facts about the farm (size, system, practices)

Experiences of farming on a floodplain

Nature-friendly farming

Sources of advice

Key challenges faced on the floodplain land

Soil types

Monitoring

Wildlife

Hay production

Economics

Involvement in agri-environment schemes

Future plans



Case study videos



FLOURISHING FLOODPLAINS

WE SPOKE TO FARMERS TO FIND OUT THE MOTIVATIONS, CHALLENGES AND ENABLERS TO MAKING CHANGE IN FLOODPLAIN FARMING METHODS...



Long versions: up to 15 minutes long
 Short versions: ~2-3 minutes

Durations based on previous research into farmer preferences for informative videos (Chivers et al, 2021)



<https://www.youtube.com/watch?v=sWsuRTydMpU>



Factsheets

FARMER CASE STUDY FLOURISHING FLOODPLAINS



NORTON COURT FARM, GLOUCESTERSHIRE

DEBBIE WILKINS



FARMING ON A FLOODPLAIN

Debbie manages Norton Court Farm, nestled in the Severn Vale of Gloucestershire. Much of the floodplain land here is adjacent to a nature reserve, making it an important spillover habitat for visiting wading birds during flood periods. The floodplain land is an integral part of the farm as the permanent pastures and hay meadows provide an important source of livestock feed alongside promoting wildlife.

Farming the floodplain land itself rather than leaving it unmanaged is key; without hay cuts and a grazing regime, the land would likely revert to scrub and trees, no longer providing vital habitat for breeding waders, overwintering birds, and a range of botanical species. The non-floodplain arable and permanent pasture land on the farm is farmed slightly more intensively, allowing Debbie to prioritise extensive farming on the floodplains.

NATURE-FRIENDLY FARMING

- The farm has always been managed with wildlife in mind and has been in agri-environmental schemes for over 30 years; Debbie's father kept the farm in Countryside Stewardship for 20 years prior to Debbie taking over
- Some of the floodplain land is now in high-level stewardship (HLS) and has been for over 10 years. This agreement has recently been extended for a further 5 years, with a focus on species-rich grassland and overwintering waders
- Land that isn't in HLS or any other scheme is still managed as low-input permanent pasture
- Debbie has experimented with planting wetland herbal mixes, which consist of grasses which are both drought resilient and able to withstand flooding.
- She has also trialled mob grazing, finding that the only cattle that didn't need supplementary feeding were those managed under this regime
- On other floodplain meadow land not under species rich grassland, Debbie has undertaken two trials: 1) Rotational grazing, with cattle moved daily; and 2) Set stocking, with cattle grazing entire fields. She found similar growth rates for both approaches, but the rotational grazing used half the area compared to set stocking.

KEY FACTS

- Mixed 950-acre family farm in Gloucestershire, with enterprises including dairy, beef and arable
- Around 350 acres of the farm is floodplain land, which represents an important part of the farm business both for production and wildlife
- Low-input management is used across the floodplains, with many receiving no inputs (fertilisers/pesticides).

SOURCES OF ADVICE

Debbie uses several sources of advice, noting the importance of on-farm experimentation and remembering that all farms are different.

- Key sources of advice include:
- FWAG, in particular when completing applications for agri-environment schemes;
 - Informal discussions with peers;
 - Severn Vale guardians;
 - Dairy discussion group;
 - Arla dairy regenerative farming pilot group



Photo credits: Debbie Wilkins



FOR MORE INFORMATION, VISIT:

FARMER CASE STUDY FLOURISHING FLOODPLAINS



NORTON COURT FARM, GLOUCESTERSHIRE

DEBBIE WILKINS

KEY CHALLENGES ON THE FLOODPLAIN

- Canary grass is the main problem weed on the floodplains, which is particularly prone to spreading when hay cuts are made later in the year (e.g., due to weather)
- Lungworm is another concern, though Debbie has found that vaccinating with Huskvac avoids the need to worm livestock
- The timing of hay cuts is difficult to manage, particularly under HLS as the scheme restricts timings. For example, early June often offers the best weather for cutting, but the agreement doesn't allow cutting until late June
- Public access is a concern on the farm; Debbie is happy to welcome walkers using footpaths across the land, but is often frustrated by those who don't keep dogs on leads, especially in areas prioritised for wildlife (e.g., for ground-nesting birds such as curlews).



SOIL TYPES

Debbie undertakes extensive soil testing on the farm, including magnesium, potassium, phosphate, calcium, and soil organic matter. Whilst many farmers don't measure calcium levels, Debbie argues this is important due to the effects of calcium-magnesium balances on fertility. Most of the soil across the farm is heavy clay, with high magnesium and potassium levels. The floodplain land has high soil organic matter, ranging from 17-23%, alongside good magnesium levels but low phosphate levels. The latter is likely because this land receives no inputs. Soil pH levels, meanwhile, are relatively neutral, ranging from 7.5-7.8 across the farm.



Photo credits: Debbie Wilkins

MONITORING

- Detailed soil testing is carried out across the farm (described above)
- Dung beetle surveys revealed high beetle counts, though these counts dropped by up to 50% after livestock were treated for flies. These populations did, however, appear to bounce back quickly
- aecal egg counts revealed that the cattle grazed on long grass do not need to be wormed
- Botanical surveys found a wide range of species including red burnet (see below), row-leaved water-dropwort, and cowslips.

LIFE

Debbie is actively promoting curlew breeding on the farm. Curlews are amongst many species of wading birds that have been seen on the floodplain land. Curlews have been heard on certain fields, which were cut until September to avoid disturbance to wading birds from the adjacent nature reserve. Some of the farms' floodplain land, which has become an important spillover habitat during heavy flooding. This indicates that the floodplain has become an important spillover habitat for these species.



Photo credits: Debbie Wilkins

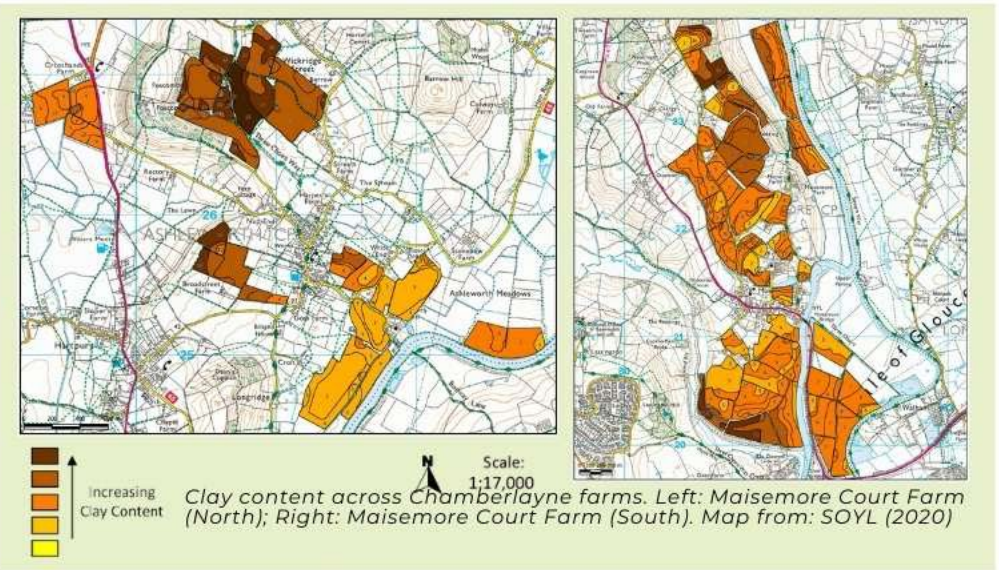


FOR MORE INFORMATION, VISIT:

Example case study: Persh farm

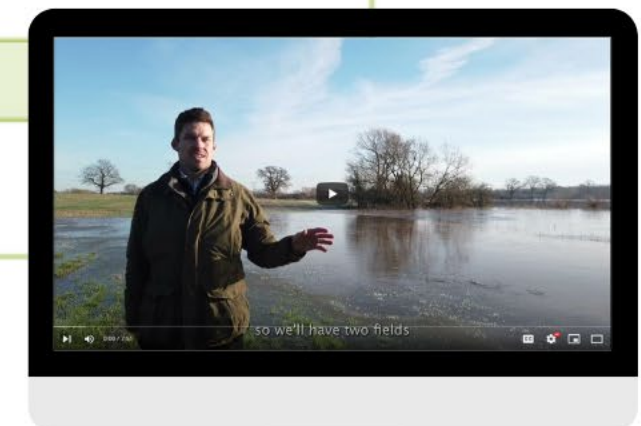


- Mixed farm: 550ha (400 = arable)
- Livestock: 60 traditional Herefordshire cattle and 100 sheep
- Cattle are grazed on wetland fields and cover crop forage where appropriate
- Around 150ha of the farm is situated on a floodplain, including Persh
- Spring and winter rotations on arable land
- Hay produced on meadows is kept on-farm



Example case study: Persh farm

Non-rotational HT options	Rotational HT options
Creation of wet grassland for breeding waders (GS11)	Winter bird food (AB9)
Management of wet grassland for breeding waders (GS9)	Basic overwinter stubble (AB2)
Native breeds at risk/threatened species supplements (SP8/SP9)	Autumn sown bumblebird mix (AB16)
Permenant grassland with very low inputs (GS2)	
In-field grass strips (SW3)	
Management of hedgerows (one side per 100m) (BE3)	



Example case study: Persh farm

- Joined Higher Tier Countryside Stewardship in 2022
- **Culverts have been installed** to control flow and provide nesting and foraging habitat for birds. These culverts are kept closed all summer from around February onwards to keep water on the fields
- **Benchmarking** has helped to identify areas with poor gross margins and where to farm less intensively with support from agri-environment schemes
- Floodplain land on the farm has gradually transitioned away from arable = **28% increase in grassland (= breeding waders)**
- Livestock represent an integrated part of the farm
- Involved in LR pilot project - Eelscapes



Oystercatcher



Lapwing



HOW COULD POLICY BETTER SUPPORT 'FLOURISHING' FLOODPLAINS?

- Support actions to enhance floodplains (ponds, flexible hay cutting dates, harvesting, water storage, hedgerows, brush harvesting)
- Trial different policy mechanisms (results-based payments, adjust tax regime, collaborative advice)
- Embrace floodplains for multiple benefits (storing carbon, reducing flooding and enhancing biodiversity)
- Mix of public and private finance opportunities

THANK YOU

ANY QUESTIONS?



Thanks to our case study farmers: Debbie Wilkins, Richard and Andy Rumming, Greg Chamberlayne, Rob Davies