Hay Days: management of floodplain meadows for sustainable hay production

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Hay Days: management of floodplain meadows for sustainable hay production
PhD researcher: Vicky Bowskill, Supervisors: David Gowing and Shonil Bhagwat
School of Environment, Earth and Ecosystem Sciences

Floodplain meadows

These internationally threatened meadows depend on annual hay cutting and aftermath grazing to maintain their characteristic botanical diversity. Changes in agricultural methods and land use over the last century have led to the loss of 97% of our heritage wildflower meadows. This study investigates how agricultural production can be brought back into balance with biodiversity conservation through well-timed haymaking.

Hay Days

Is it best to cut meadow hay in mid-summer, when it is most nutritious? Or leave it for the insects and other wildlife to enjoy until the end of summer?

These are the questions that Captain Quad Rat has been pondering...

To find the answer, Ratty has been cutting quadrat samples from some lovely flowery meadows all summer long...

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The floodplain meadow nutrient pump

Plant growth:

• Nutrients transferred
• Root growth stimulates root exudates
• Nutrients watered into underground reserves after flowering

Haymaking:

• Nutrients removed

Botanical diversity:

• Fast growth

• Resists competition

• Nutrients available for plant species that thrive.

Flood sediments:

• Nutrients deposited

• Flooding deposits nutrient-rich sediments that enrich soils. Rising soil nutrients can lead to halting botanical diversity as tall competitive species crowd out lower growing plants.

Hay Days

Understanding this can help farmers use the timing of their annual hay cut to balance the production of a nutritious hay crop with biodiversity conservation.

Meadow Managers

Meadows would not be meadows without meadow managers. So this project began by seeking their views to inform the Redwork Focus.

The questionnaire

Over 100 responses helped narrow down the Redwork focus to seasonal changes in yield and dietary minerals.

The interviews

A series of land manager interviews during 2021 is exploring the practical implications of this research for their daily decisions.

Nature Friendly Farming

Conservation and farming are often portrayed as opposing forces in the media and it became clear from the questionnaire that this divide is inaccurate and unhelpful.

Hay yield and minerals

Floodplain meadows are a naturally fertile farm resource.

How hay makes meadows

Double cutting

One method to maximise yield and total nutrient removal is to take a double hay cut. The aim is to take two harvests during the active growth periods in the early summer and autumn, avoiding the summer dormant period.