

# Floodplain Meadow Restoration Case Study

## Old Church Furlong, Stewkley Wildlife Reserve, river Ouzel, Buckinghamshire

### Landownership and site background

This field has been managed by Stewkley Parish Council since 2004, rented as part of a grazing licence. It was originally owned by the Oxford Diocese (Church Furlong) and was historically an allotment. It is ridge and furrow in parts with wet and dry areas. It is not in an agri-environment agreement.

The plan is to manage the site as a traditional hay meadow for the benefit of the villagers. It is intended the fields will be an educational resource for local schools and surveys of local bird, butterfly, moth and other insect populations have been and will be undertaken.

### Restoration activity

Since 2005, extensive efforts have taken place to increase the range and quality of wild flowers in the fields .

Yellow rattle, was introduced and careful planting of plug plants and collection and spreading of seed on an annual basis has been carried out ever since.

Some seed has also been bought from a commercial supplier., some collected from same fields. This has been a very careful and thoughtful tending of plants, sowing of seeds and managing of meadow.

### Current management

It is managed through an annual hay cut with the sward allowed to grow until the grass is cut at the end of July/August. The regrowth is grazed until late autumn by livestock.

There has also been tree planting along the hedgerows and bird and bat boxes erected.

Paths are mown around and through the meadows to allow public access.

### Progress by 2023

The FMP visited in 2018 and again in 2021. At each visit 5 1 x 1 m<sup>2</sup> quadrats were collected. The data are presented in Tables 1 and 2.

Old Church Furlong is a drier and less fertile field than the other two fields adjacent.

### Site information

**Size:** 1.2 ha

**Public access:** Yes

**Phosphorus levels:**

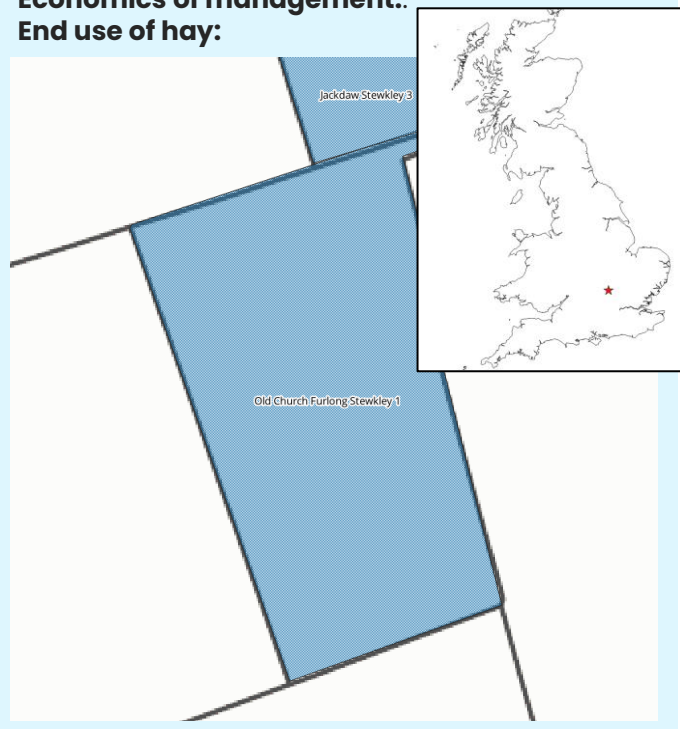
**Soil type and profile:**

**Flood frequency:** Likely ground water fed, no flooding, at top of catchment

**Cost:**

**Economics of management:**

**End use of hay:**



According to Ellenberg indicator values, soil moisture (F) and soil nutrients (N) haven't changed between the first visit in 2018 and the second in 2021 (Table 1). The site is in a stable condition, with a relatively low nutrient level (N=4.44), which is ideal for restoration. The field supports the Typical Burnet floodplain meadow plant community (MG4b *Alopecurus pratensis-Sanguisorba officinalis* grassland).

The dryer subcommunity (MG4a) also has high similarity score with the current vegetation on the meadow. Species richness is as high as 28 species per 1 m<sup>2</sup> in places.

However, the functional diversity of the vegetation presented as ratio between competitive, stress-tolerant and ruderal species, could be better balanced, as the presence of ruderal species is still quite high; this situation hasn't changed since the survey in 2018.

**Table 1 Summary of the botanical data collected**

	2018	2021
Ellenberg F (moisture tolerance)	5.5	5.0
Ellenberg N (fertility)	4.6	4.44
Ellenberg R (Reaction)	5.8	6.16
Species/quadrat (mean and range /1 m x 1 m)	19.6 (15-23)	22 (16-25)
NVC (top 2 MAVIS subcommunities)	MG4b	MG4b

**Table 2 Restoration progress\***

Yellow highlighted figures show where Old Church Furlong is on the scale of restoration progress by 2021.

Field 1	Progress score 2021				
	1 Poor progress	2	3	4	5 very good progress
<b>Average scores from five botanical quadrats per field. Calculated in MAVIS</b>					
Species richness	<8	8 to 12	13-15	16-20	>20
NVC similarity score	<50%	50-55%	55-60%	>60%	>60%
C:S ratio	1.65	1.39	1.23	1.1	1.09
S:R ratio	0.67	0.79	0.81	0.89	0.93

### Management recommendations

Continue with management and restoration as currently. The site is an excellent example of restoration success

\* [A summary of the data collection and analysis methods used is available here](#)





**Old Church Furlong**

