

**Baseline wildflower survey, Lion Green Orchard Space** (Biodiversity Method/Results) Feb. 2023

**Aims and objectives:** Refinement of baseline data on plant species, occurrence and measures of biodiversity on Lion Green Orchard Space following the new maintenance regimes.

**Introduction and methodology**

Following a wildflower trial area at Lion Green pre-Orchard space on 9<sup>th</sup> July 2021 a walkover survey was conducted by professional ecologist, Gareth Matthes using the DAFOR Scale (stands for: Dominant, Abundant, Frequent, Occasional, Rare), a simple way of recording species abundance in a given area. It was then agreed to plant the orchard space in spring 2022 and change maintenance regimes to the orchard-space and ditch verge (2m margin), with a summer cut and collect.

This follow-up survey attempts to provide an objective measure of plant biodiversity within the Orchard-space meadow and adjacent amenity-recreation grassland. From the footpath separating the two areas, three random 1m<sup>2</sup> quadrats were surveyed within the two grassland spaces for the number of grassland and wildflower species present on 31<sup>st</sup> January 2023. In addition, a species list and the percentage of moss cover were recorded. A further three fixed-points were surveyed along the south-west facing ditch verge on 2<sup>nd</sup> February 2023, including the percentage bare earth cover.

**Results**

The following species were recorded:

1. **Recreation/amenity area:** Yorkshire Fog, perennial ryegrass, creeping buttercup, white clover, common mouse-ear, common daisy. Average 5% moss cover per quadrat. Species recorded per metre square were 5, 5 and 6 - **averaging 5.3 species per metre sq.**
2. **Orchard Meadow area:** Yorkshire Fog, fescue, creeping buttercup, white clover, common daisy, cuckoo-flower, self-heal, common sorrel, ribwort plantain, hawkbit, wood-rush. Average of 50% moss cover per quadrat. Species recorded per metre square were 9, 9 and 10 - **averaging 9.3 species per metre sq.**
3. **Ditch-margin:** Perennial rye-grass, geranium, strawberry, nettle, dandelion, white clover, ivy, buttercup, dock, ground-elder at three fixed-points. Average 5% moss and 45% bare earth. Species recorded per metre square were 6, 5 and 7 - **averaging 6 species per metre sq.**

**Conclusions**

The meadow flora in the Orchard-space is nearly twice as biodiverse as the adjacent recreation grassland. This could be due to various factors additional to changes in maintenance regimes e.g., the amount of disturbance from the public is greater on the general recreation-space. If the Orchard-space increases in biodiversity over time, while HTC continues with the new cut and collect maintenance regime, then it could be concluded that this change in management has increased the biodiversity of this part of Lion Green. Change in ditch maintenance is less conclusive with a slightly higher species diversity recorded, which may be expected anyway regardless of changes in management regimes. It is therefore more important that the cut and collect is continued on the ditch verge, in order to reduce soil nutrients and the extent of dominant tall herbs, such as nettle and ground-elder.

Monitoring took place in late winter, but should generally take place in summer (June-period). The future percentage cover should also include percentage of bare-earth, for all areas, which may indicate the extent of recreational disturbance. It is recommended that this survey method (1m<sup>2</sup> quadrat sampling (at least x3)) is adopted when assessing biodiversity changes following alterations in maintenance regimes, for other sites put forward for biodiversity meadow enhancements.

**Baseline wildflower survey, Lion Green Orchard Space** (Area A on Wildflower trial areas proposal)

July 2021

**Aims and objectives:**

To establish baseline data on plant species and occurrence on Lion Green Proposed Orchard Space prior to changes in management

**Introduction and methodology**

Following a submission to propose wildflower trial areas on Lion Green it was agreed to record current and future wildflower diversity. On 9<sup>th</sup> July 2021 a methodical walkover survey was conducted by professional ecologist, Gareth Matthes on Area A (where a small community orchard has been planned and budgeted for). Wildflower species and their abundance were noted within the meadow using the DAFOR Scale, a simple way of recording species abundance in a given area. The acronym DAFOR stands for:

Dominant      Abundant      Frequent      Occasional      Rare

Further info: [Handout 9 - DAFOR \(norfolkwildlifetrust.org.uk\)](https://norfolkwildlifetrust.org.uk)

**Results**

The following species were recorded per habitat-type within and around the meadow space:

1. Meadow Area included 18 wildflower species (and abundances) listed as follows:

Dominant: Grasses - Bent grass, Yorkshire Fog (perennial ryegrass, locally dominant near path)

Abundant: Creeping buttercup, common daisy (locally abundant - yarrow near footpath, oak saplings near ditch-tree-line)

Frequent: Self-heal, common sorrel, hawkbit (cuckoo-flower locally frequent in damp areas by ditch)

Occasional: White clover, Pearlwort and mosses

Rare: Lesser stitchwort, ribwort plantain, common mouse-ear, field speedwell, ragwort

2. The western fenced boundary dominated by two species, nettle and hedge-bindweed.

3. The northern boundary supported Portuguese and Cherry Laurel with areas of dense bramble

4. The eastern boundary to the ditch supported: Docks, lady fern, hogweed, wood-avens, cleavers.

**Conclusions**

The meadow was dominated by grass-species, but forbs (flowering-herbs) were a significant feature of the meadow-sward, with seven species considered to be abundant to frequent in occurrence. The proposed orchard space has potential to support a more diverse wildflower sward, if managed appropriately (i.e. cut and collect during appropriate times of year). Follow-up surveys in subsequent years, around the same time of year as this baseline survey (late June to early July) will provide an indication as to the success of enhancing the biodiversity within the proposed orchard-space.