



Kendal Pollinators Project

Report for 2018

Project Objectives

This education project was established in 2016 to develop understanding around the issues faced in creating a pollinator corridor. The corridor would form an outdoor public gallery of mini- projects, ideas and experiments all relating to the importance of our pollinators. Young people would research and develop understanding of the flowers that encourage the biggest populations of pollinating insects.

Core Project

In autumn 2017, following surveys of existing flowers and insects, approximately 10,000 plug plants were planted by young people, parents and other supporters from Kendal Conservation Volunteers and SLACctt on the six plots on the canal path. This would enable subsequent observation and recording during 2018 and 2019 of the success or otherwise of each species in regrowth and the pollinating insects encouraged as a result. The outcomes from these surveys would support the core objective of the project: making a contribution to a better understanding of how to explain the importance of, and create homes and habitat for, pollinating insects.

Who is involved?

Five schools and youth groups are currently involved: Kingfishers (Cumbria Wildlife Trust's group for younger people); Castle Park, Ghyllside, Heron Hill and Stramongate primary schools. Kirbie Kendal School withdrew early in 2018. All of the groups have undertaken surveys of wildflowers and pollinating insects on the plots on the canal path. About 150 children have been involved at some point during 2018.

Volunteers from South Lakes Action on Climate Change Towards Transition (SLACctt) and Kendal Conservation Volunteers (KCV) have been involved throughout the project. Support from South Lakeland District Council and Kendal Town Council has been gratefully received. Advice from the Centre for Ecology and Hydrology at Lancaster University has been provided and appreciated throughout 2018.

Programme and Key Activities during 2018

During 2018 there have been a number of logistical and methodological issues that have had to be managed. For instance there have been several instances of vandalism to the plot fencing and signage. Unexpected mowing of the three northern plots also took place twice causing a change to the management regime. On the one hand this disrupted the ability of some of the young people to be able to undertake surveys on their plots. On the other hand it allowed observation of the vegetation response to an unplanned change.

Ten surveys were undertaken between May and July (five of wildflowers and five of insects). The methodology was kept similar for all surveys to ensure that the data would be comparable, both with other plots in 2018 but also compared back to the baseline surveys in 2017 and the planned future surveys in 2019.

The management regime that is being trialled is for the plots to be left untouched (unplanned mowings as above excepted) without any form of mechanical or chemical intervention during the growing and seed-setting season up to September. During September, following seed setting and to keep the nutrient level on the plots down for the following year, the plots are mown and the clippings raked off and composted. Additionally, there is a significant quantity of dock on the southernmost of the six plots. A discussion was undertaken as to whether this should be removed or left in place. The decision to leave in place and attempt to observe any impact on species diversity on that plot will be reviewed for 2019.

Outcomes from 2018

It is too early to reach strong conclusions regarding the final outcomes of the project - a fuller report will be produced at the end of the project in 2019. The survey results produced by the young people are summarised in the tables in appendix two below. Whilst the methodological issues and the modest scale of the data sets do not allow robust conclusions to be drawn, at the end of the 2018 interim year some important observations can be made:

- Grass growth on the three northern plots was substantially less than on the southern plots where up to one metre of growth was observed.
- This led to initial identification of some of the planted species emerging on the northern plots but not so much on the southern plots where some species were crowded out. It is known that some of the species may not have flowered in their first year.
- Unfortunately, the three northern plots were mown in error twice during the growing season. This meant that meaningful surveys were difficult, but were attempted on one of the three plots to see what still managed to grow.
- Importantly, following each of the unplanned mowings, red clover was observed to return very quickly. At the end of August it was still the main flower observed on the northern plots.
- Of the species planted in autumn 2017, observation of the plots during the surveys by the young people showed that red clover, ox-eyed daisy and some cow parsley had grown. Cowslips were also much in evidence but unfortunately this was before the surveys took place.
- Whilst there are variances between individual sets of results for each plot, taking averaged data across all of the plots, there is a remarkable consistency between the wildflower and insect results for 2017 and 2018. Whilst this does not show a significant increase in flower and insect populations – for which there are several possible explanations – it does suggest that the methodology for the project surveys is robust. It also suggests resilience of the plants and insects in the relative drought that was experienced in the period leading up to the surveys.
- Fewer insects were recorded on the southern plots in 2018 compared to 2017. The points above regarding grass and dock growth could be responsible in part for this. Although from limited data, the number of wildflowers recorded on the southern plots was also slightly lower in 2018 compared to 2017.
- Due to the unplanned mowing, only one of the three northern plots was surveyed in 2018. This did not follow the pattern of the southern plots, showing more individual flowers and a greater range of insect categories.

- The character of the three southern plots (dense, lush growth) and the three northern plots (lower, less dense vegetation) is very different.

The Project During 2019

Participation

All of the groups of young people who were involved during 2018 have indicated that they want to continue during 2019. The intention for 2019 is for young people to repeat their surveys using the same methodology as for 2017 and 2018 but without the unplanned mowing.

Methodology Improvements

If it is possible to do so, following further discussion, there will be some improvement of the robustness of the science elements of the project in 2019. The key elements envisaged would be to record a control area adjacent to each set of plots, and therefore similar in all respects other than the plug-planting treatment. In addition we wish to measure a number of other variables that could affect the outcomes from the different plots. An idea whereby this could have been undertaken during 2018 by sixth form students supported by CEH was put to Kendal's sixth form schools but neither wished to participate.

Project Coordinator Appointment

It is proposed that the contract for the project coordinator should be renewed for a further year (the original appointment of Ian Rodham was for one year, 2018, only).

Project Reporting

A final report on the project and related outcomes will be produced in the late autumn of 2019, once the full survey results have been collated. Interim short updates will be provided to project partner organisations during the year as per 2018.

Completion of the 'Core' Project

It is anticipated that on completion of the core three year project, the current fencing and signage of the six plots along the canal path will be removed. This is expected to be in late summer 2019.

Funding

The full funding allocation for 2018 was not required, total costs being £1600 for the year against a budget of £3000. The underspend was due to three principal factors: i) the continued involvement of volunteers in the project; ii) the ability of the Project Coordinator to undertake the role in fewer hours than anticipated and iii) plot mowing and grass clearance being undertaken free of charge by Continental Landscapes. For 2019, project costs are expected to be approximately £2,500. This breaks down as £2,200 for the project coordinator (assuming a similar workload to 2018 plus extra end of project reporting, site clearance and additional methodology work) plus a £300 provisional sum for clearance of the plots. These funds are available within Kendal Town Council's original allocation for the project.

Proposal for Use of Outstanding Funds

The budget proposed above would leave approximately £1,900 of allocated funding from grant partners unused. A proposal will therefore be developed for appropriate and directly relevant use of this. This will be:

- i. an art based project where the children who have been involved in the surveys can express their own impressions of wildflowers, pollinating insects and the wider environment; *or*

- ii. a study using qualitative techniques of the impact on and learning by the children who have been involved in the project to date. This would also include interviews with teachers; *or*
- iii. a combination of (i) and (ii), ie a qualitative study as in (ii) where impressions and opinions don't just have to be expressed in writing.

Beyond 2019

Current funding for the project ends in autumn 2019. Given this, the key challenge will be to maintain the enthusiasm of the young people, their staff and other supporters to see if it is possible to develop the ideas behind, and outcomes from, the project once the initial three year period and funding have ended. Looking beyond the end of 2019, there are opportunities for participant organisations to continue to develop the involvement of young people in similar and further activities. For example, there is the possibility of a grant application to the Royal Society, supported by CEH. This specific opportunity has been promoted to current project partners but as yet none have expressed interest.

There are other locations in Kendal and nearby where wildflower projects are being undertaken, for example in the Nobles Rest area involving bank planting, formal planting and planting around the fringes of the park. It could be that, just like the paths of the insects themselves, we could join different sites together in subsequent study.

Appendix One: Plant List

Field Scabious

Lady's Bedstraw

Black Knapweed

Bird's Foot Trefoil

Wild angelica

Ox-eyed Daisy

Red Clover

Cowslip

Cow parsley

Yarrow

APPENDIX TWO: RESULTS SUMMARIES

Insect Survey Results: 2017

	North Plot 1	North Plot 2	North Plot 3	South Plot 1	South Plot 2	South Plot 3	Averages
Average Number of Insect Categories Recorded on each Transect	1	2	2	3	4	3	3
Average Number of Individual Insects Recorded on each Transect	1	7	12	16	14	23	12

Insect Survey Results: 2018

Average Number of Insect Categories Recorded on each Transect	0	0	5	2	4	3	3
Average Number of Individual Insects Recorded on each Transect	0	0	14	14	7	8	11

Not surveyed due to mowing

Maximum number of insect categories = 7

Wildflower Results: 2017

	North Plot 1	North Plot 2	North Plot 3	South Plot 1	South Plot 2	South Plot 3	Averages
Average Number of Species	2	3	5	2	3	6	4
Average Number of Individual Flowers	14	16	28	16	14	47	22

Wildflower Results: 2018

Average Number of Species	0	0	4	2	5	3	4
Average Number of Individual Flowers	0	0	68	15	21	10	28

Not surveyed due to mowing