

## Creation of a community orchard and meadow

The village of Wylam lies in a beautiful location on the north bank of the river Tyne. It is a lively community of about 2000 people, most of who commute to Tyne and Wear to work. In 2009 a local initiative led to the creation of a Community Orchard within the grounds of the local First School, and in 2016 the Wylam Community Orchard Group entered and won the Save Our Magnificent Meadows 'Meadow Makers of the Year' award.

Peter Dodman, Chair of Wylam Community Orchard Committee, explains how the site was chosen: "The location chosen was the lower south-facing grounds of Wylam First School on a slope which was unused by children as they were not permitted access.

This area had originally been a hay meadow called Dicky's Bank on old maps of Wylam but by 2009 it was managed as part of the grass playing field, and there was little diversity in wildflowers. After consultation with the Head Teacher and the School Governors, it was agreed that the creation of the orchard could go ahead, and the Wylam Community Orchard Committee was formed, a constitution agreed and ratified by AGM and a bank account opened."

Tom Martin, Volunteer Orchard Manager continues: "The group started work on the orchard with enthusiasm and in the spring of 2011, 80 fruit trees funded by the Tree Council were bought and planted. Since this



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Turf stripping © Wylam Community Orchard



Sowing seed © Wylam Community Orchard



Trampling seed © Wylam Community Orchard

time, volunteer work parties have taken place fortnightly for most of the year for two hours on Sundays, and all of the dates were and are still advertised in the village and the local press. We estimate that the site takes 300 volunteer hours per year."

In the summer of 2011 a biodiversity sub-group led by Alison Fisher, was formed for the orchard and undertook a survey of the plants. Generally, there were few wild flowers and strong grasses, such as Yorkshire fog, dominated the grassland. After an inspirational visit to Pont Park Wild Flower Meadow in Ponteland, the community group agreed to plant a 500 sq/m wildflower meadow at the east end of the site beside a mixed copse of 20 year old trees. Over time the area of wildflower meadow has been extended, using a variety of techniques to help establish the wildflowers - some of which were more successful than other areas. The soil is silt deposit over clay and slightly acidic and the bottom of the slope is quite damp.

"It was not possible to find a book about how to grow a wild flower meadow, and none of us had any prior experience, so it was with trepidation that the work began in the summer of 2012!" says Alison. "To create the meadow we followed Natural England information published online, and all the advice we received stressed the importance of reducing soil fertility prior to sowing seed, to discourage strong grasses which smother delicate hay meadow plants. For the first phase we cut the site and raked off the grass. We then tried two methods of preparation: 1) the removal of the topsoil by hand (a heavy job), and 2) rotovating with a tractor. After five years, it is still noticeable that the patch where the turf was removed by hand is the better in terms of wild flower abundance."

Tom Martin continues: "Since 2012, the community group has sown and plug planted an area of similar size every year and the wild flower meadow now measures 2000 m<sup>2</sup>. We were able to purchase a power scythe funded by LEAF (Local Environment Action Fund) which reduces the hay cutting work, and in 2015-2016 a mechanical turf remover was used to help prepare the last two phases of



the meadow for seeding. This cut down to some extent the heavy work required to strip the topsoil."

The flowers and grasses of the meadow come from two sources, one is hay meadow seed from a farm in the Northumberland uplands which was sown at 5 g/m<sup>2</sup> and the other is wild flower plugs. In the first year the group bought plugs commercially using grant money, but this proved uneconomic. Alison continues: "Initially the choice of flowers was fairly random as we lacked 'expert' experience but over time we have targeted flowers and meadow grasses which can survive the (occasionally harsh) conditions. In 2013 we set up a small planting group, which meets five times a year at Wylam Nurseries. The group uses certified UK native seed from a commercial supplier and also free seed from Kew Gardens donated by members. In spring 2015 we planted out 1000 plugs, spring 2016 saw an increase to 2000."

The Biodiversity Group undertakes a year-round survey of flowers (and increasingly grasses). The results are sent to the local record centre each year. These records show a clear annual increase in species:

Year	Number of species
2014	56
2015	66
2016	71

Although each year some species are lost, more are gained. The biodiversity group is interested in why species flourish or not. Alison says: "It is sometimes difficult to understand why species do not thrive. In 2016 we lost ragged robin which likes wet ground, despite the storms of the previous winter which left the site saturated." They also chart the provenance of species. Very few of the flowers are self-seeded, probably because the site is surrounded by species-poor fields. The bulk of the flowers come from the hay meadow seed, which contains yellow rattle, an important plant for the establishment of the meadow over the first four years. The seed also contains typical meadow species for the area, such as eyebright, ribwort plantain and common sorrel. Plugs and bulbs planted



Meadow in full bloom © Wylam Community Orchard



Cutting the meadow with a mechanical scythe © Wylam Community Orchard



Making hay © Wylam Community Orchard



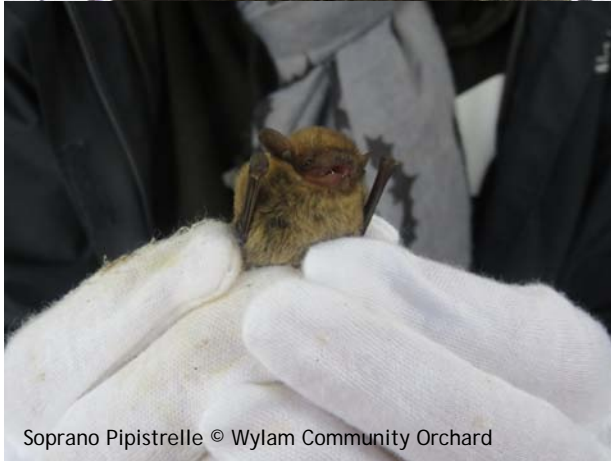
Making hay stocks © Wylam Community Orchard







Putting up a bat box © Wylam Community Orchard



Soprano Pipistrelle © Wylam Community Orchard



Red-tailed bumblebee © Wylam Community Orchard



Close-up of the flowers © Wylam Community Orchard

by volunteers make up the rest. In spring cowslips and primroses are increasing, along with small patches of snake's head fritillary and water avens, and more English bluebells have appeared in the small woodland glade. Summer flowers include an abundance of yellow-rattle, ox-eye daisy and meadow buttercup in June, followed by black knapweed, meadow crane's-bill and common bird's-foot-trefoil in July.

There are other ongoing surveys. David Stebbings, Conservation Officer for Butterfly Conservation North-East has undertaken a butterfly and day-flying moth survey for the past three years. In 2015, ten species of butterfly and nine species of day-flying moth were recorded in the orchard meadow. There was an increase over the previous year in flower meadow species such as meadow brown, ringlet and small skipper and the appearance of large skipper. In 2016, a local bee expert Louise Hislop undertook a wild bee and wasp survey and over 2014-2016 seven bat boxes have been erected, which are monitored by Hazel Makepeace of the Northumberland Bat Group. In 2015, there was evidence of the rare Brandt's bat roosting (from DNA analysis of the bat droppings) and in 2016 Hazel found 3 soprano pipistrelle and a common pipistrelle were found in one box to everyone's delight! The group is currently looking for a bird expert to monitor the six bird boxes, five of which have regular nesting birds.

From 2012 to 2016 a 500 m<sup>2</sup> area was planted every year. Tom Martin explains the process: "We are unusual in that our orchard includes not only a wild flower meadow planted in four stages but also a fruit orchard with 80 trees and some fruit bushes! We had to learn some (occasionally hard) lessons as we went along. The second phase was cut, raked and rotovated before being seeded, and the difficulty of keeping the tall grasses under control without removing the topsoil prompted a rethink. When undertaking the third phase, we removed topsoil with a hired cutter. The cutter broke, it was very hard work rolling up turf and then loading it onto a tractor, and we were all exhausted! However for the fourth phase in autumn and spring



2015-16 we hired a larger cutter and with experience the whole process became easier."

The site management plan is undertaken by Tom. Until this year the community group have cut (using our power scythe and strimmer) each of the four phases of the meadow twice in the first year and once thereafter. In 2017, they are looking at increased cutting and hay raking in order to tackle areas where the grasses still out-compete the wild flowers and sometimes form a mat. Such areas will receive two cuts, a high one in July and a low one in September, the idea being to encourage late-summer growth in wild flowers. The management plan also considers sustainability, tailoring the work to the limited number of volunteers. Volunteers rake the hay after each cut to ensure the grass does not rot into the meadow, to help impoverish the soil and reduce the dominance of strong grasses. Traditional hay meadows use animal grazing to create patches of bare earth in which seed can germinate. As the orchard and meadow are a school site which is unfenced this option is impractical, and therefore the community group intends to use a chain harrow or tine harrow which can attach to our hired tractor to achieve a similar effect.

Community involvement is a very big activity with the Orchard: "In 2014 we organised a Wildflower Meadow Picnic which attracted 100 people. In 2015 we held a Nature Exploration Day in association with the Northumberland Wildlife Trust Education Department, Wylam First School, Butterfly Conservation North-East and Wylam Nurseries which proved so popular that we repeated it in 2016 so that no one was disappointed. All of the primary children in years 3 and 4 were given the opportunity to participate in a bug hunt and spot butterflies. They planted and potted on wild flower seeds from Kew Gardens and learned about simple biology. In 2015, the Head Teacher Lynne Johnson spoke at the 'Fruit on the Tyne' Conference about how the orchard and meadow are integrated into teaching the national curriculum. Says Alison. "It's not just about the children though. In 2016, we ran a training event

sponsored by ERIC (Environmental Records Information Centre) 'Introduction to bees and wasps' with Louise Hislop, a member of BWARS (Bee and Wasp Recording Society). Participants were given the opportunity to learn about these insects and to use their new-found knowledge to spot them on the meadow flowers. We are planning more training sessions in 2017."

What of the future? Alison concludes, "We have now finished expanding the meadow and we are learning how to sustain the site. We try to think long-term and experiment with different flowers, grasses and cutting regimes. In time the orchard trees will grow and we will need hedge and woodland plants in the shady areas. To begin this process, in early spring 2017 we planted 2000 wild flower bulbs in the woodland area, which will attract pollinators in the early part of the year and give pleasure to the community. We now host many visitors to our Orchard, and feel we can pass on our experience to others. Our vision is of a meadow of where the natural webs of life grow ever more diverse and complex, a lovely meadow buzzing with activity which will stimulate the imagination and enthusiasm of generations of children."



Running events © Wylam Community Orchard



The committee in 2015 © Wylam Community Orchard

